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1903-05
BIENNIAL REPORT

OF THE

State College of Kentucky

UNIVERSITY OF ILLINOIS

TO

PRESIDENT'S OFFICE

HIS EXCELLENCY THE GOVERNOR

AND THE

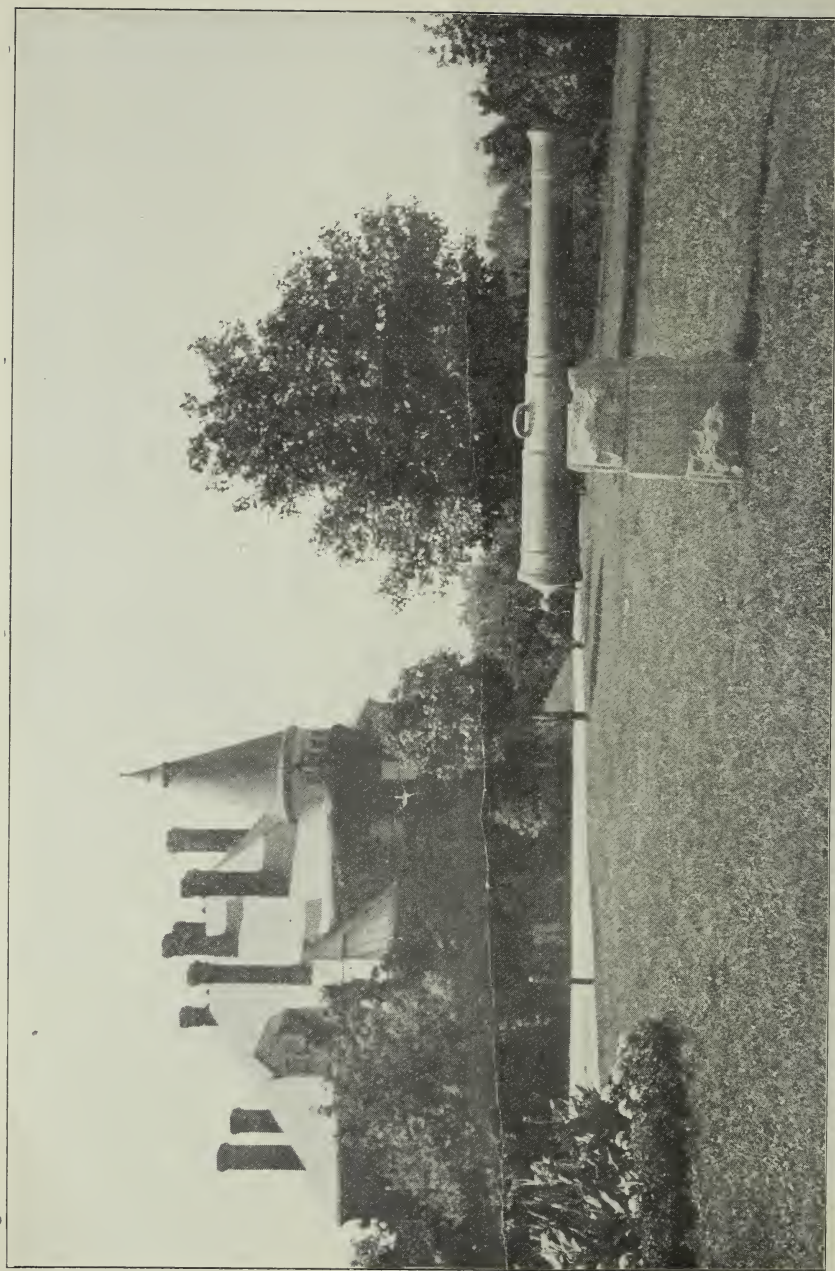
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GENERAL ASSEMBLY OF KENTUCKY

1903-1905

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SECTION I.

FOUNDATION AND PURPOSE.

Agricultural and Mechanical Colleges in the United States owe their origin to an act of Congress, entitled "An Act Donating Public Lands to the Several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under the act. When established it was not placed upon an independent basis, but was made one of the colleges of Kentucky University, to which institution the annual proceeds of the Congressional landgrant was to be given for the purpose of carrying on its operations. The landscrip had meanwhile been sold, sacrificed for fifty cents per acre, and the amount received—\$165,000—invested in six per cent. Kentucky State bonds, of which the State became custodian in trust for the college.

The connection with the Kentucky University continued until 1878, when the act of 1865 making it one of the colleges of the said University was repealed, and a commission was appointed to recommend to the Legislature of 1879-80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the college) the city park, containing fifty-two acres of land, within the limits of this city, and \$30,000 in city bonds, to be used either for the erection of buildings or for the purchase of land. The county of Fayette supplemented this offer by \$20,000 in county bonds. The offers of the city of Lexington and of the county of Fayette were accepted by the General Assembly.

By the act of incorporation and the amendment thereto, con-

stituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition, the energetic young men of the Commonwealth whose means are limited. The normal department, for which provision is also made, is intended to aid in building up the common school system by furnishing properly qualified teachers. This college, with the additional departments which will from time to time be opened as the means placed at the disposal of the trustees allow, will, it is hoped, in the not distant future, do a great work in advancing the educational interests of Kentucky. Being entirely undenominational in its character, it will appeal with confidence to people of all creeds and of no creeds, and will endeavor to restrict conformity with the requirements of its organic law, to afford equal advantages to all, and exclusive privileges to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land scrip invested in State bonds, will, it is believed, enable the trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

SCOPE OF STUDIES.

In the act of Congress making provision for the class of colleges to which the State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." To the two departments of agriculture and mechanic arts, contemplated in the act, a normal school has been added by the State and an experimental station by the United States, while liberal provision has been made for instruction in all branches of science and in the classics, so that this institution is far more than an agricultural and mechanical college, embracing as it does not merely the two original departments, but thirteen others.

THE NORMAL DEPARTMENT.

The normal department of the State College exists under the authority of acts of the General Assembly approved April 23, and April 29, 1880. Section 7 of the first act briefly defines the object for which the department was established, "A normal department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the college." The second act provides the necessary endowment to make the act effective.

The number of students annually enrolled in the normal school has exceeded expectation. As they come from all parts of the State, and many of them return well prepared for the profession of teaching, they must greatly promote the proficiency of our common schools generally, and demonstrate the wisdom of the General Assembly in providing an inexpensive normal school, centrally located and easy of access, to keep the State always supplied with well-trained teachers.

THE KENTUCKY EXPERIMENT STATION.

This department of the State College originated in a resolution of the executive committee of the Board of Trustees, adopted in September, 1885, when the department was organized and a director appointed. In 1886 the Station was recognized and named by the General Assembly, and in 1887 it and a similar Station in every other State were each endowed by Congress with an annual appropriation of \$15,000.

The work of the Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn what application of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard and the dairy. 2. To the publications of bulletins announcing such results of the experiments as are found to be valuable to those of the people of Kentucky who seek profit from either of those prime sources of wealth—the soil, the flock or the herd.

Results of experiments have been published in ten annual reports and ninety bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon

application for it, the mailing list of the Station contains more than 8,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm of over two hundred acres and worth \$60,000, conveniently situated, and thirteen capable scientists always employed and in correspondence with other Stations, the Kentucky Experiment Station is not only an important adjunct of the College in the education of students for the leading industrial pursuits, but directly or indirectly, through the wide and continued diffusion of knowledge for the benefit of so large a portion of our population, it is extremely useful to the Commonwealth at large.

LOCATION.

The State College of Kentucky is established in the old city park just within the southern boundary of Lexington, and near the Cincinnati Southern Railway. The site is elevated and commands a good view of much of the city and of the surrounding country.

Lexington, now a growing city of thirty odd thousand inhabitants, is in the heart of the far-famed bluegrass region, a region distinguished for fertility and healthfulness, wealth and beauty. Numerous schools and churches, intelligent and refined population, well paved streets, handsome buildings, extensive water works and an unsurpassed system of street electric railways make Lexington attractive as a seat of learning and place of residence, while the splendid stock farms scattered over the large body of fertile country around it afford it advantages hardly equaled elsewhere for the student who desire to become familiar with the best breeds of horses, cattle, sheep and swine in America. Moreover, Lexington is the railroad center of Kentucky, in immediate connection with Louisville, Cincinnati, Maysville and Chattanooga, and with more than seventy counties of the Commonwealth.

GROUNDS.

The campus of the college consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone street electric car line extends along its entire western border,

giving opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden, in which will be grown the most desirable native plants, with a view to testing their adaptability to cultivation, and to give increased facilities to students taking agricultural and biological courses.

About three-quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone street, is the Experiment Station Farm, consisting of two hundred and three acres sixty-four and a half acres of which have been added by recent purchase. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit spraying tests, in short, all of the scientific experiments of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

BUILDINGS.

The main college building is a structure of stone and brick, 140 feet long and 69 feet wide. It contains the office of the president and the business agent, and on the third floor, counting the basement floor as one, is the chapel in which each day the students and faculty meet, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms.

The Station building is a handsome structure, well planned for the object for which it was made. It is seventy feet in length, by fifty-four feet in width, with a tower projection in front and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, with a basement eleven feet from floor to ceiling. The main entrance is on the first floor on the west side of the building, through an archway fifteen feet wide. The next floor above is devoted to office and laboratory work of the Station, while the upper floor accommodates the college work in chemistry.

The building devoted to mechanical engineering covers altogether an area of about 20,000 feet, is constructed of stone and pressed brick, and is well furnished with modern conveniences for work in this branch of engineering.

Two large brick dormitories on the campus afford boarding convenience for the students who wish to lessen expense in this direction. There are also on the campus a brick dwelling for the president and a cottage occupied by the commandant.

Science Hall, built during the year 1897 for the departments of natural science, is 96x97 feet, of pressed brick, trimmed with Bowling Green limestone. The wide halls, the numerous and spacious lecture rooms, laboratories and offices in its three stories are conveniently arranged, well lighted, and well furnished.

On the Experiment Farm are a brick dwelling, occupied by the director of the Station, and the usual farm buildings for the care of tools, the protection of stock and the like.

A brick building 157 feet long and 100 feet wide, with the central part three stories high and the wings two, has just been completed at a cost of \$25,000. The central part will be appropriated to the college societies and the Y. M. C. A., the alumni hall, trustees' room and armory; the wings will contain the drill hall and the gymnasium.

A site of three and a half acres on Limestone street and a fourth of a mile south of the college has been purchased for the young women's dormitory. The building is to cost \$20,000, and be completed by the beginning of the next session.

DESCRIPTION OF GYMNASIUM, STATE COLLEGE OF KENTUCKY.

Through the liberality of the General Assembly of 1901 a gymnasium and drill hall has been built on the State College grounds. The building is of imposing design; the main portion of the building is three stories high and the two wings are one and two stories high, respectively. The building is of pressed brick with Bedford stone trimmings, slate roof and stone foundation. The first story of the main part of the building is built of Bedford limestone in broken ashlar. The first floor of the central portion of the building is devoted to a locker room for women, armory, trophy room, commandant's office and physical director's office. The second

floor is set aside for alumni hall, trustee's room, and literary society room. The third floor is occupied by two literary society rooms and Y. M. C. A. The wing on the right of the building is 48x95 feet and is an open room with hard clay floor; this room is for military exercises during inclement weather. The wing on the left is 48x95 feet and is two stories high; the basement floor contains the bath rooms, lockers for men, wash stands, shower baths, water closets and swimming pool; the second floor is the gymnasium floor, proper and is magnificently equipped with the best gymnasium apparatus that could be procured. The height of this room is twenty feet; on a balcony running entirely around the room is a running track properly concaved for speed and covered with felt. The roof over the gymnasium room is supported on steel trusses to which all hanging apparatus is attached; the trusses over the drill hall are of wood. The building is lighted throughout by electric light and all of the fixtures are of Bower-Banf finish. The drill hall and gymnasium room are lighted with enclosed arc lamps.

The finish throughout the building is of yellow pine, the walls are sand finished in gray and the ceilings in smooth white. There are two entrances into the front, and vestibules have tile floor. The building is heated by an independent plant using the vacuum system of steam heating and steam is circulated throughout the building at a pressure of eight ounces.

The building is located to the left of the main college building and at a distance to make it convenient to the athletic field. The building is arranged so as to accommodate the young men and young women at different times, the locker rooms for men and women are entirely removed and on different floors. The rooms used for society rooms, Y. M. C. A., trustee's rooms and alumni hall are commodious and splendidly adapted for their purpose.

SCHOOL OF MINES.

The Legislature of 1897-8 made provision for the establishment of a school of mining engineering in the A. & M. College on the expiration of the term of service of the inspector of mines appointed by Governor Bradley. This occurred January 19, 1902.

The act provides that the offices of inspector of mines and his assistants shall henceforward be at the State College, that these

officials shall no longer be political appointees holding under an appointment of the Governor, but that they shall be appointed by the board of trustees of the college; that in addition to their duties as inspector and assistant inspector of mines they shall be professors in the college—the former being dean of the faculty of mining engineering, and that they shall hold office as professors in the college on identical conditions with other professors. The board of trustees have elected Mr. C. J. Norwood, former inspector of mines, to succeed Mr. G. W. Stone, the late incumbent. A suitable staff of assistants will be associated with him, and the School of Mines was opened early in 1902. The importance of this addition to the Schools of Mechanical Engineering, Electrical Engineering and Civil Engineering can not be overestimated. The coal and iron of Kentucky—the oil fields in which important discoveries have been made—the valuable deposits of fire clay—the excellent stone for building and other mineral deposits of value—all press upon the Commonwealth the urgency of the steps taken for establishing a first-class School of Mining Engineering.

The Legislature will be asked for a liberal appropriation to supply the necessary equipment in order to make theoretical instruction effective.

The Legislature has established the school and it now behooves it to supply the necessary material for making it a productive agency in education worthy of the State.

COMMON SCHOOLS AND THEIR RELATION TO THE COLLEGE. COUNTY SUPERINTENDENTS.

It is difficult for us to raise the standard of admission so long as the common school standard and that of a majority of the secondary or high schools remain at the present level. There is a tendency for these to teach too many things rather than to teach them thoroughly. So far as the requirements of the State College are concerned we should get students much better prepared for our work in all our courses of study if fewer subjects were taught and those taught with more thoroughness. We want pupils well grounded in spelling, reading, writing, geography, English grammar and arithmetic.

Too much insistence can not be placed upon the necessity for

these. The law requires that all appointees from counties be *actually* examined by examiners appointed by county superintendents within dates set forth in the law; that the questions for examination be prepared by the college and transmitted to superintendents; that the examination cover the subjects taught in the common schools and that candidates for appointment shall have completed the common school course. Moreover, the examinations when there are more applicants than one shall be competitive and the appointment given to the one who passes the best examination. The successful competitor is entitled to free tuition, matriculation, fuel and lights and lodging as far as the accommodation on the grounds will permit; and traveling expenses hither and return if the appointee remains one year.

Many of the superintendents, I regret to say, ignore the requirements of the law. They fail to appoint a date for examination; fail to examine; fail to enter grades made. They issue so-called appointments to persons not entitled to them—send them hither to be subjected to the mortification of failing to pass the entrance examination and to the expense of a fruitless journey. Many innocent persons are thus misled and betrayed by negligent or incompetent superintendents who are paid to do duties which they neglect and ignore. Surely this matter is susceptible to remedy, and we earnestly invoke your aid and cooperation in securing by appropriate legislation the remedy required.

The college is made by the sections 14 and 15 of the act of March, 1893, the virtual head of the common school system, and you and we are equally interested in seeing that the liberal provisions of the act are made productive of fruitful and beneficent results. No such liberal provision has been made by any State in the Union for carrying forward the education of the common schools into the college and it behooves us to see that this liberality does not fail to accomplish the results intended. Let us make education in the common schools more thorough and let us require under a penalty the county superintendents to do their duty.

We believe that you will, with all the energy and wisdom at your command cooperate gladly with us in providing the necessary means to secure this most desirable end.

Every one of the "Land Grant" Colleges, organized under the Act of 1862, are liberally provided by the respective States in which they are situated, with the necessary buildings and appliances by which agricultural education may be made effective. The principal industry of Kentucky is and for generations to come will be agriculture. The competition is so keen and the aggregate acreage of the United States so large that unless intelligence be brought to bear upon the cultivation of the soil, those who are owners of land in Kentucky, instead of becoming richer, must gradually become poorer from year to year. No soil, however fertile, will, unless its elements of fertility be replenished, from time to time, last forever. In many localities, the wear and tear upon the soil is already beginning to tell seriously upon production. The farmer then should be intimately acquainted with the origin of soils and their constituent elements. He should know what these elements of fertility are, how they are dissipated and how they may be replenished. This implies an intimate knowledge of the mechanical constituents of the soil and their chemical properties. It is the part of the agricultural college to supply this information to the farmer. This is done partly by the education of young men who have matriculated in agricultural courses of study, and partly by the bulletins issued from time to time by the Experiment Stations connected with the "Land Grant" colleges, and disseminated gratuitously among the agriculturists of the State. Not only should the intelligent farmer know the mechanical and chemical constituents of the soil, but he should know how plants feed and how plants grow. That is to say, he should know the elements of nutrition drawn from the soil and drawn from the atmosphere. This knowledge is supplied by the agricultural college through instruction given in the germination of seeds, the nutrition of plant life, and the development and growth of the plant.

Furthermore, the products of the soil in herbage and in grain exist in our Commonwealth largely for the benefit of the stock to which they are fed. Our horses and our cattle, our sheep and our swine, and our poultry transform the products of the soil into flesh and blood, partly for use and partly for consumption. It is essential then that the intelligent stock feeder and stock breeder should know upon what animals feed and how they grow, that they should know the laws of production, the laws of heredity and the principles of cross-breeding, and fertilization, in order that the most economical results may be obtained. These, with the preceding, necessarily im-

ply an intimate knowledge of both botany and zoology, especially in their economic relations. Now, in these three lines of study, namely, the knowledge of the soil, the knowledge of the laws of plant life, the knowledge of the laws of animal life, physics, chemistry, the physiology and pathology of plant life, and the physiology and pathology of animal life, are intimately concerned and form the foundation of the education of an intelligent farmer.

The Agricultural and Mechanical College, though it has been in existence for years, has never been adequately provided with buildings and equipments for rendering agricultural education effective. We have done the best we could with the meager facilities at our disposal, but the time has now come when it is imperative that larger provisions, on a much more extended scale, should be made for instruction in agriculture, in horticulture, and in stock breeding, than we have ever had hitherto. The farmers of Kentucky pay a large proportion of the tax levied for the support of the college and are in justice entitled to corresponding benefits from its operations. I therefore believe that the time has come when by a united effort we should endeavor to obtain from the General Assembly an appropriation, generous and liberal, for the erection of the necessary buildings and for their proper equipment in all that is needed for education along agricultural lines.

Of equal importance are the claims of the teachers of Kentucky and the common school system of Kentucky upon the State College for the maintenance of a school for the education and training of teachers. There were, I understand, several hundred schools last year, within the State of Kentucky, which were not provided with teachers, and consequently, were not kept during that scholastic period. This is not as it should be. The State College has for years been doing what it could to maintain a normal school of reputable character and proportions. It has done the best it could with the means at its disposal, but we are painfully conscious of the fact that the results have not been commensurate with our wishes. With an independent building, and a larger educational staff, we could have benefited the Commonwealth to a larger extent. Within the last twenty-five years the assessed valuation of Kentucky has more than doubled. The facilities for the instruction and training of teachers has not, within the Commonwealth, kept pace with the corresponding growth in wealth and in population. It now seems to me to be an opportune time to redress this balance and to make application

to the incoming General Assembly to make a liberal appropriation for the erection and equipment of suitable buildings whereby this work so auspiciously begun, may be carried on upon a much larger scale than we have been able to do heretofore. The general intelligence of the people depends upon the efficiency of the common schools. The efficiency of the common schools depends upon the education of the teacher; this latter element it belongs to the State College to supply. Let it be understood that the State College does not stand in the way of a liberal provision for schools for the education of teachers elsewhere. To these it would ever be ready to give a helping hand, but the school for training teachers, or the normal school, as it is generally called, in connection with the State College, is co-eval with its re-organization, and should be maintained and supported with a liberal hand. Give us the means by which to educate teachers and to make education effective, and we will be able to do a work for the public at large out of all proportion to what we have hitherto done, beneficent though it has been.

DEVELOPMENT.

The growth of the college from year to year is shown in the following summary:

1862. To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its senators, and its representatives in Congress, 30,000 acres of its public land.

1865. The General Assembly of Kentucky, having accepted the State's portion under the conditions prescribed, established the Agricultural and Mechanical College, making it one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating \$130,000 to authorize the commission of the curators of the university to buy a site for the college. The General Assembly having authorized the commissioners of the sinking fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the commissioners' agent the State realized for its land only \$165,000.

1866. The college opened with a president, four professors and a commandant.



PATTERSON HALL (GIRL'S DORMITORY).

1878. Dissatisfied with the management of the college by the curators of Kentucky University, who were engaged in a long factional strife, the General Assembly severed the connection with the university, and called a commission to re-locate the college, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class university." Kentucky University claiming and retaining the former site of the college, the sole property left the latter after the severance was an income of \$9,900 derived from the land grant.

1880. The city of Lexington offering the city park of fifty-two acres as a new site for the college, and also \$30,000 in bonds, and the county of Fayette offering \$20,000 besides, the General Assembly ratified the selection of a site made by a majority of the commission and located the college permanently in Lexington.

1880. To provide teachers for the common schools, of the State and for other schools, the General Assembly added to the college a normal department which should admit, besides other students, one from each representative district every year free of tuition.

1880. Further to endow the college and to enable it to purchase apparatus, machinery, implements and a library; to maintain the normal department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each one hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The classical and normal departments and the academy added.

1882. The college building, the first dormitory and the president's house completed.

1885. The commandant's house re-constructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture. an act of Congress established, under the direction of the Agricultural and Mechanical college in each State, an Agricultural Experiment Station, appropriating for its support \$15,000 per annum.

DORMITORY FOR YOUNG WOMEN.

The Legislatures of 1900 and 1902 made appropriations amounting to \$60,000 for the erection and equipment of a college home for young women. The act required that it should not be built

on the college grounds where the other college buildings stand, but upon ground altogether outside of the college premises. The Pepper property, after long and tedious negotiations, was at length secured, for which \$10,500 was paid in cash. The property was liable for unpaid taxes amounting to \$1,260. The trustees refused to pay them and the negotiations were in danger of falling through when the president of the college and his brother, W. K. Patterson, assumed the obligation and bound themselves in writing to the board of trustees to hold the college harmless as regards these liens.

After the purchase, plans and specifications were proposed and the contract let for the building with accommodations for 120 young women. It has a front of one hundred and fifty feet with two projecting wings. There are bath rooms and water closets on every floor, electric and gas lighting arrangements in all the rooms and halls; laundry room, dining room and hall for physical culture are all large and equal to the requirements of the college home.

The lot is a beautiful one, situated within half a mile of the court house and contains three acres of ground. The front is 210 feet and the depth 600 feet. Ample shade trees and a fine elevation make it one of the handsomest sites in Lexington.

There are some lots intervening between the college home and Winslow street which bounds the college campus on the north, which the college should own. The time is not far distant when all the building space on the college grounds will be exhausted and sites for the additional buildings which the college will require will be difficult to obtain.

The possession of these intervening lots would provide additional building sites and by connecting the recently purchased site with the college campus would give continuity to the whole. We think that an appropriation by the Legislature for this purpose would be both wise and economic.

The college home, to which the name of "Patterson Hall" was given by the building committee, is now completed and ready for occupancy and will supply a want long felt by both the college and the Commonwealth.

1887. The department of civil engineering established, an experimental farm of forty acres purchased and the college green-house built.

1889. The Experiment Station building completed.

1890. The second dormitory completed.

1890. For "the more complete endowment" of Agricultural and Mechanical Colleges, an act of Congress appropriated to each State \$15,000 per annum for the year ending June 30, 1890, and the same sum with an increase of \$1,000 per annum for ten years, after which the maximum of \$25,000 should continue without change. Of the amount thus annually appropriated, the college receives 85 per cent. and the school for colored people at Frankfort 15 per cent.

1891. The department of mechanical engineering established.

1892. The mechanical building and work-shops completed.

1894. Green-houses for the Experiment Station built.

1895. The annex to the mechanical building and the insectarium for the Station built.

1897. The department of electrical engineering established. Additions made to the green-houses and insectarium.

1898. The building for natural science completed.

1898. Sixty-four and a half acres added to the Experimental Farm, making 113 in all.

1900. Sixty thousand dollars appropriated by the General Assembly for a dormitory for young women, for a gymnasium, the drill hall, and a hall for the Y. M. C. A.

1901. Ninety acres added to the Experimental Farm, making 203 in all. The building erected containing the gymnasium, the drill hall, and the hall for the societies and Y. M. C. A.

1903. College home for young women built by an appropriation of \$60,000 made by the Legislatures of 1900 and 1902.

Increase in property.—The property of the college is estimated to be worth \$600,000 more than it was in 1880.

Increase of teachers.—Before 1880 the college had six professors; it now has sixteen professors and twenty-three assistants.

Increase of courses.—Before 1880 the college offered a single course of study leading to a degree; it now offers thirteen.

Increase of students.—The number enrolled during the session of 1898-99 was about 480, considerably the largest till then in the history of the college; last session the number was 503; this session it is 614.

Increase of graduates.—No fact more distinctly marks the growth of the college than the increase in the number of its graduates. More students were graduated in 1902 than were graduated in the first twenty-five years, and the number of those graduated during the last five years is greater than that of the first thirty.

The benefit which it has conferred upon the Commonwealth by the education of her sons and daughters can not be computed. From comparatively small beginnings it has grown far beyond the most sanguine expectations of its founders. During this period its professors and instructors—those engaged in teaching and those occupied in investigation—have increased eightfold; its courses of study in like proportion.

Meanwhile it has added laboratories, museums and workshops for the illustration and application of science; provided additional buildings and extended its sphere of operation, theoretical and practical, in manifold directions.

Its Experiment Station organized for the benefit of the farmers, with its farm of over two hundred acres; its fine herd of Jerseys; its department of animal husbandry; its experiments in cereals, grasses, fruits, hemp and tobacco (the results of which are published for gratuitous distribution among agriculturists, horticulturists and fruit growers of the State) is the best south of the Ohio river.

The same is true of its laboratories and museums—chemical, physical, botanical, geological, mineralogical, anatomical, biological, entomological, mechanical, electrical, civil and mining engineering.

Its engineering courses, measured by their systems of instruction and their results, are equal to those of any technical school in the United States.

Graduates in engineering, in science, in classics, in pedagogy, are in such demand that more than twice the number of alumni, each year, could be placed at once in positions honorable and remunerative.

The State College of Kentucky is now well abreast of the other land-grant colleges, easily first south of the Ohio river and in many respects equal to the best in the Northwest, although its income and building accommodations are far behind those of the great States north and west of us. Ohio, Indiana, Illinois, Wisconsin, Minnesota, Missouri and Iowa have provided buildings for their respective institutions at a cost far surpassing ours and supplied annual income from three to six-fold greater than that at our command.

By adequate support our engineering courses of study will supply a large percentage of the trained engineers required in the South; and our scientific courses of study will supply a like proportion of scientific experts in the application of science to the industrial arts.

Now is a rare opportunity for Kentucky to take the lead in the South and West and to maintain it.

The authorities of the State College bring these facts before you with pardonable pride. Its growth within the last twenty-two years surpasses that of any other institution in Kentucky. But this we hope is only the beginning of greater things yet to be. If, however, it is to expand in the future as it has grown in the past, the State, realizing its necessities and its opportunities, must foster and sustain it with no niggardly hand. Income has not kept pace with expansion and with its ever-growing necessities. The income from the federal government accruing from the proceeds of the sale of lands donated by Congress in 1862 and from the appropriation made under the Morrill Act of 1890 is divided, $14\frac{1}{2}$ per cent. being given to the colored normal school in Frankfort. In most of the other States of the Union these incomes in their entirety are given to the colleges and universities organized under the law of 1862. Our income is thus diminished to the extent of \$5,060.50 each year. Moreover, the income of the college from the one-half cent tax imposed in 1880 is quite inelastic and has stood at practically the same figure for several years past.

Matriculates increase in numbers every year, classes grow proportionately, new courses of study are added to meet the needs of the public; but the income of the college is practically at a stand-still. A largely increased attendance of young women in consequence of the completion of the college hall for boarding and lodging young women (for the erection of which the State appropriated \$60,000) will swell our numbers beyond all precedent and emphasize the necessity for more and ampler accommodations. You will readily see that unless the educational interests of the State as represented in the State college are provided with additional means for expansion and maintenance, the progress and growth of the institution must be cut short, must come to a stand-still, must, as compared with other State colleges, relatively decline.

To cease to go forward is to go back. No State institution in all the Union has had a steadier and a healthier growth. No college has graduated abler men and women. If the progress of which we are all so proud is to continue we must have more means and the Commonwealth is our only source of supply. The college will ask the Legislature, of which you will be a member, for money for the erection of additional and much-needed buildings. It will also ask

for a substantial addition to its income in order that it may be able to meet growing expenditure.

The State college is the child of the Commonwealth; it appeals to your protection; to your intelligence; to your interests, and to your pride to sustain it with no niggardly hand.

The State is rich in actual resources; richer far in potential resources which the State College is a potent factor in developing. The State, moreover, is now quite free from debt; the movement seems auspicious for the exercise of a generous liberality to enable your college to grow and expand and become a still greater power for good in Kentucky. To you it appeals; to you it stretches forth its hands. Make it all it ought to be, and this and future generations will accord to you your meed of honor.

NECESSITIES.

1. An appropriation for the extension and further equipment of the department of mechanical, civil and electrical engineering.

2. An appropriation for the erection and equipment of a building for mining engineering and physics.

3. An appropriation for the erection and equipment of a building for the use of the normal department and the academy.

4. An appropriation for the erection and equipment of an agricultural building.

We have now sketched the history of the college, and in the following section have presented its organization by departments and courses of study. Reports of departments appended and made a part of this report show the work done in kind and in degree. We have exhibited its marvelous growth and development; how setting out from small beginnings it has grown to its present proportions. We have shown that it must advance *pari passu* with its sister colleges and universities; that to stand still is to lose ground and be left like the moraine of a glacier while the mighty mass moves silently and resistlessly on. We have shown what other States are doing and that even with our meagre resources none of them turn out better men than we.

We have called attention to the teeming resources and boundless wealth of Kentucky awaiting the engineer to make them available, and finally we appeal to your honor and good faith pledged to the general government, to your State pride, to your intelligent self-

interest to maintain and sustain your State college in a spirit worthy your traditions, worthy your history, worthy the sires from whose loins you came. We build, our descendants will inhabit; we plant, they will reap; let us remember our lineage and praise the fathers who begat us by doing their work as they would do.

Let us foster and maintain a great institution whose beacon light will be seen from afar over hill and valley and plain, east and west, north and south, throughout all this broad land of ours.

We are, with great respect,

Your obedient servants,

D. F. FRAZEE,

Chairman Executive Committee.

JAMES K. PATTERSON,

President A. and M. College of Ky.

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EXPERIMENT STATION STAFF.

TERMS AND CONDITIONS OF ADMISSION OF
STUDENTS, DEGREES, COURSES OF
STUDY, MILITARY ORGANI-
ZATION, ALUMNI.

UNDERGRADUATES, METHOD OF
COUNTY APPOINTMENTS, ACCREDITED SCHOOL.

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Faculty.

(In the order of appointment.)

JAMES KENNEDY PATTERSON, PH., D., LL. D., F. S. A., *President,*
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Professor of Mechanical Engineering.

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ARTHUR MCQUISTON MILLER, A. M.,
Professor of Geology and Zoology.

MERRY LEWIS PENCE, M. S.,
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JOHN PASCAL BROOKS, M. S.,
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Instructor in Physical Culture.

W. WALTER H. MUSTAINE, B. S.,
Physical Director.

HARRISON GARMAN,
Lecturer on Entomology.

JOSEPH NELSON HARPER, B. S.,
Lecturer on Agriculture.

MISS ELIZABETH SHELBY KINKEAD,
Lecturer on English Literature.

JOHN LEWIS LOGAN, A. B.,
Assistant Professor in the Academy.

JAMES FRANKLIN SANDEFUR,
Assistant in the Academy.

VICTOR EMANUEL MUNCY, B. S.,
Assistant in the Academy,
Instructor in Free-hand Drawing.

JOSEPH MORTON DAVIS,
Assistant Professor of Mathematics.

EDGAR H. CRAWFORD,
Assistant in the Normal School.

ASHER GRAHAM SPILLMAN,
Assistant Inspector of Mines.

JOSEPH DICKER,
Assistant in Blacksmith Shop and Foundry.

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Assistant in Latin, Greek, and German.

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Assistant Professor of Electrical Engineering.

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Assistant in Drawing and Wood Shop.

THOMAS WILLMOTT FREEMAN,
Assistant in Drawing and Machine Shop.

STATE COLLEGE OF KENTUCKY.

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Engineer and Assistant in Wood Shop.

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Assistant in the Mechanical Laboratory.

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Fellow Assistant in Civil Engineering.

MISS ALICE COURTNEY PENCE, B. S.,
Fellow Assistant in Anatomy and Physiology.

J. HARRY CLO, B. S.,
Fellow Assistant in Physics and in the Normal School.

MISS MARGARET DONALD ERSKINE WILKIE, B. S.,
Fellow Assistant in Chemistry.

MISS SUE DOBYNS MCCANN, B. S.,
Fellow Assistant in Zoology and Geology.

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Fellow Assistant in Mining Engineering.

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Fellow Assistant in Chemistry.

EARL CLEVELAND VAUGHN, A. B.,
Fellow Assistant in Botany.

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Fellow Assistant in English.

THOMAS MARSHALL SMITH, B. S.,
Fellow Assistant in Entomology.

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The Kentucky Experiment Station.

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U. S. Weather Bureau.

OBSERVER, ROBERT HENRY DEAN.

There has been established at the College by the U. S. Department of Agriculture a Station of the Weather Bureau, with first-class instrumental equipment, and working in close connection with the College, and the Experiment Station. Students who are interested in the study of meteorology and kindred sciences will find at this Station of the Bureau a rare chance for special investigation, and they are welcome to such benefits as the Station affords.

Admission.

A student is admitted to the State College in one of six ways:

- I. By examination.
- II. By certificate from an accredited school.
- III. By certificate from the College Academy.
- IV. By transfer of credits from a college or university.
- V. As a special student.
- VI. By certificate from the Normal School.

I. ADMISSION BY EXAMINATION.

For the Freshman Class students are examined on the following:

1. IN ENGLISH.—(a) On Advanced Grammar. Selections for analysis and parsing are arranged to test the candidate's knowledge of the structure of the language. (b) On Rhetoric and Composition. The candidate is required to write two essays of not less than two hundred words each, one on a subject taken from a prescribed work of some standard author, the other on a subject chosen by the candidate. The books from which subjects will be taken are: Burke's *Speech on Conciliation with the Colonies*; Shakespeare's *Macbeth*; Milton's *L'Allegro*, *Il Penseroso*, *Comus*, and *Lycidas*; Macaulay's essays on *Milton* and *Addison*. Shakespeare's *Merchant of Venice* and *Julius Caesar*; Addison's *Sir Roger de Coverley Papers*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; Scott's *Ivanhoe*; Carlyle's essay on *Burns*; Tennyson's *Princess*; Lowell's *Vision of Sir Launfal* and George Eliot's *Silas Marner*.

For a connected account of these books and of their authors Halleck's *History of English Literature* is recommended. The candidate must be familiar with the plots, incidents and characters of each work, and be prepared to show his ability to write correct English. No candidate will be admitted whose work is notably deficient in a knowledge of spelling, punctuation, paragraphing, and syntax.



ALUMNI HALL.

2. IN HISTORY.—(a) On Eggleston's History of the United States, or an equivalent. (b) On General History, in amount equivalent to Anderson's or Myers' General History.

3. IN GEOGRAPHY.—(a) On Advanced Descriptive, Mathematical, and Political Geography, as presented in Butler's Complete, or The Natural Advanced, Geography. (b) On Physical Geography, as presented by Tarr or Davis.

4. IN MATHEMATICS.—(a) On Arithmetic. A thorough knowledge of the subject is required. (b) On Algebra. The student must show a thorough knowledge of the subject as presented in Wentworth's Higher Algebra, including factors, common divisors and multiples, fractions, involution, embracing the binomial theorem for positive integral exponents, evolution, theory of exponents, radicals, imaginary quantities, inequalities, equations of the first and second degrees involving one or more unknown quantities, equations solved like quadratics, simple indeterminate equations; and equations involving radicals. The student is expected to state and explain the reason for every step in his work. (c) On Geometry. The student must exhibit a knowledge of the subject as treated in books I to V inclusive of Beman and Smith's Geometry, including the larger part of the matter relating to triangles, parallels and parallelograms, polygons and circles, as presented in the best American text-books. The student should be able to apply the principles of Geometry to practical examples, to construct diagrams quickly and accurately. In proving a theorem or solving a problem he should be able to prove every statement made by going back, step by step, till he rests on primary definitions and axioms.

5. IN LATIN.—On genders, declensions, conjugations, syntax, and idioms as they are treated in Smiley and Storke's Beginner's Latin Book; Viri Romæ; ten lives of Nepos; five books of Cæsar; Daniell's New Latin Composition; Creighton's History of Rome; Guerber's Myths of Greece and Rome.

Strict attention must be paid to quantity and accent.

6. IN GREEK.—On genders, declensions, conjugations, accents, syntax, and idioms, as they are treated in White's Beginner's Greek Book; Moss' Greek Reader; five books of Xenophon's Anabasis; Pearson's Greek Prose Composition; Oman's History of Greece.

Equivalents are accepted in both Latin and Greek.

Candidates for admission to the courses in Science, Agriculture, Mechanical and Civil Engineering will be examined on 1, 2, 3, and 4.

Candidates for admission to the course in Pedagogy will be examined in 1, 2 (a), 3 (a), 4, and 5.

Candidates for admission to the course in Classics will be examined on 1, 2 (a), 3 (a), 4, 5, and 6. If French and German be substituted for Greek, 6 will be omitted.

II. ADMISSION FROM AN ACCREDITED SCHOOL.

An applicant for admission to a class in the College who presents from the Principal or Superintendent of an accredited school a certificate that he has duly completed the courses of study prescribed for admission to that class will receive from the President of the College a permit entitling him to admission thereto without further examination.

The list of accredited schools is given elsewhere in this catalogue.

III. ADMISSION FROM THE COLLEGE ACADEMY.

A student who presents from the Principal of the Academy a certificate that he has properly completed either course of study set forth in the curriculum of the Academy will be admitted to the Freshman Class of the corresponding course in the College without further examination.

IV. ADMISSION FROM A COLLEGE OR UNIVERSITY.

An applicant for admission who has been a student of another college or of a university of respectable standing, upon presenting a certificate of his honorable dismissal therefrom, may be admitted *ad eundem gradum* in this College, provided that he shall satisfy the appropriate professors that he has duly completed a course of study equivalent to that completed by the class which he proposes to enter.

V. ADMISSION AS SPECIAL STUDENT.

A graduate of another college or of a university may enter this College at any age in order to pursue a special line of work and study, but all others must be at least twenty-four years of age, the limit below which appointments of beneficiaries under the law must be made.

VI. ADMISSION FROM THE NORMAL SCHOOL.

Although the Academy is the recognized preparatory school for all courses of study in the College, credit is given nevertheless to students who have completed any subject in the Normal School, for the amount of work done and certified by the Principal of the Normal School or his chief assistant. To the extent of such certified credits students from the Normal Department will be admitted without examination to the Freshman Class. On all other subjects required for admission in accordance with the conditions set forth on pages 13, 14, 15, they must pass examination.

The Board of Trustees has authorized the appointment of a Board of Examiners, by whom all applicants for admission shall be examined.

Students who bring certificates of graduation from accredited schools shall

present them to this Board, who will pass the students in the subjects covered by certificate, without further examination. On all other subjects they shall be examined for admission and classification.

Honor pupils, one from each accredited school, shall be admitted without payment of fees. All others from accredited schools shall pay full fees.

Applicants for admission to the Academy or the Normal School shall be examined *on all branches embraced in the Common School course as required by law*, and no one who has not passed actual examination shall be admitted to either.

Students who desire to pass from the Normal School or the Academy into the College shall be admitted on identical conditions, as set forth on pages 32 and 33.

Patterson Hall.

This Hall, a home for the young women of the College, is a large and handsome three-story structure of about a hundred and fifty feet front, built on a fine site of more than three acres lying along the electric railway on South Limestone street. Within a quarter of a mile of the College on the south, a half mile of the Court House, the Phoenix Hotel and the Post-office on the north, and distant not more than ten minutes by rail from the principal churches of the city, Patterson Hall is, for all purposes, admirably located. The building is heated by steam, lighted by gas and electricity, and supplied with the purest of water. It has a roomy front porch of 12 by 70 feet, wide halls, a closet in every bed room, and thirteen bath rooms. With walks, drives and numerous old forest trees, the spacious front lawn is an inviting place for exercise, for which ample provision has also been made on the extensive grounds with a tennis court in the rear, as well as in the large gymnasium.

Sixty-two commodious and well-furnished rooms afford accommodation for a hundred and twenty-four occupants, for whom the careful and judicious matron will provide lodging free, and excellent board for \$3 a week, the inmates furnishing their own napkins and towels, and their own bedding, except mattresses and pillows, and paying their laundry bills.

Built durably of stone, brick, wood and iron, and made practically fire-proof, at a cost of \$60,000, with adequate provision for heat, light, ventilation, bathing and exercise, this Hall offers all the comforts and conveniences of a well-appointed home.

County appointees are first supplied with rooms, and these, by act of the Legislature, are assigned by lot.

Probably no educational institution in the South affords a more attractive home for young women; and those who are favored with a county appointment, the mode of obtaining which is set forth elsewhere in this catalogue, will find that residence at the State College is brought within the means of any young woman who earnestly desires to fit herself for a life of usefulness.

Departments.

The studies of the State College are distributed into eighteen Departments, each in charge of a responsible head, the heads constituting the Faculty. Arranged in chronological order, the Departments are;

- I. History, Political Economy, and Metaphysics.
- II. Botany, Horticulture, and Agriculture.
- III. The English Language and Literature.
- IV. Military Science.
- V. Chemistry.
- VI. Mathematics and Astronomy.
- VII. Modern Languages.
- VIII. Greek and Latin.
- IX. The Academy.
- X. Pedagogy, or the Normal School.
- XI. Civil Engineering.
- XII. Mechanical and Electrical Engineering.
- XIII. Anatomy and Physiology.
- XIV. Geology.
- XV. Zoölogy.
- XVI. Physics.
- XVII. Entomology.
- XVIII. Mining Engineering.

Courses of Study.

I. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Medieval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference; to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and of the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The Study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Mackenzie in Ethics. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based, and the arguments by which they are maintained. Ancient and modern systems are thus brought under review, and the necessary data furnished upon which to ground intelligent opinions.

II. DÉPARTMENT OF AGRICULTURE, HORTICULTURE, AND BOTANY.

PROFESSOR MATHEWS.

This Department occupies rooms on the first floor of the Natural Science Building, including a general laboratory, a lecture room and advanced laboratory, and an instructor's office.

Each laboratory is suitably furnished with tables, water and gas fixtures, charts, etc., and the lecture room with opera chairs, a stereopticon, etc. The further equipment, both for elementary work and for the use of advanced students, is new and of the best quality, and includes an ample supply of compound and dissecting microscopes for the individual use of each student, several first-class microtomes, ovens and sterilizing apparatus, together with delicate balances and other apparatus for the study of plant physiology.

Among other facilities for study, the Department possesses a greenhouse (85x20 feet), giving an opportunity for the continuous study of living plants throughout the winter months, and for experiment work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It is due primarily to the efforts of the late Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historic value. Constant additions are now being made to the herbarium by collecting excursions over the State and by exchanges with other institutions.

The Department Library is receiving constant accessions of carefully selected books, and already contains the most important botanical and horticultural works of reference, and these, as well as the best current literature upon these subjects, are available to students during college hours.

For the study of horticulture and agriculture, many of the appliances already mentioned are again utilized, and in addition to the complete equipment of the Experiment Station incidentally afford superior opportunities for the instruction of students.

The Horticultural Department of the Station has an excellent forcing and greenhouse plant upon the College grounds, consisting of four glass houses of the most approved methods of construction, containing 4,000 square feet of glass, in addition to hot-beds and cold frames outside. These houses are run to their full capacity through the winter months in the conduct of experiments

upon the culture of lettuce, radishes, tomatoes, cauliflower and other vegetables, and upon the various methods of plant propagation.

The extensive list of varieties of vegetables and fruits growing upon the Experiment Farm gives an opportunity for a comparative study of varieties rarely, if ever, found upon the ordinary farm.

The College campus contains a large number of ornamental trees and shrubs, and numerous varieties of annual and perennial flowering plants, and with other public grounds in Lexington affords ample facilities for the study of ornamental and landscape horticulture.

In the distinctively agricultural studies the operations of the farm department of the Experiment Station furnish an excellent opportunity for the study of the effects of various fertilizers, varieties of wheat, corn, and other field crops, and the many problems of dairying.

In order to give special attention to dairy experiments, a building has been erected upon the Station Farm and fully equipped with the most modern appliances for the care of milk and the manufacture of butter and cheese.

All these facilities for the experiment work of the Station, while primarily designed for that purpose, can not fail to be of the greatest value as object lessons in connection with the studies of pupils in agriculture.

The general subjects comprised within the scope of this department are subdivided as follows:

I. ELEMENTARY BOTANY.

Required of all students of the Scientific, Normal, and Agricultural courses who have not completed a corresponding course in some preparatory school.

SPRING TERM—This course consists of a study of the elements of structural botany and plant physiology, with determination of a number of species of the flowering plants. It corresponds to the work done in most of the high schools in the State, and, if satisfactory evidence is presented, by examination or otherwise, that such a course has been completed before entering the College, the student will be admitted directly to the general botany of the Sophomore Class.

TEXT-BOOKS AND BOOKS OF REFERENCE: Gray's *Lessons and Manual of Botany*; Bailey's *Lessons with Plants*; Bergen's *Elements of Botany*.

II. GENERAL BOTANY.

Required of all Sophomores in the Scientific, Normal, and Agricultural courses.

FALL AND WINTER TERMS—The work of the course comprises a general survey of the morphology and physiology of plants, and is designed to give the student who goes no further with the subject a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study it is intended to afford a substantial basis for more exhaustive special studies. While it is accompanied with lectures and recitations, the laboratory method is the form of instruction principally used,

and from the very beginning of his work the pupil is directed to the study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. He is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall term the study of the simplest forms of the vegetable kingdom.

TEXT-BOOKS: Coulter's Plant Structure, supplemented by directions in the laboratory and by numerous standard works of reference.

III. SYSTEMATIC BOTANY.

Required of Sophomores who elect Geology, Zoölogy, Anatomy and Physiology, Botany, or Agriculture as a major study.

SPRING TERM—The principal feature of this course is the taxonomy and classification of the ferns and flowering plants, with special reference to those groups which are of economic importance.

IV. PLANT HISTOLOGY AND ECONOMIC BOTANY.

Required of Juniors who elect Botany or Agriculture as major study.

FALL TERM—In Economic Botany, which is assigned for Tuesdays and Thursdays, a thorough study is made of selected families of plants, with regard to their characteristics, distribution, habitat, economic importance, etc. In Histology the student is given instruction and training in collodion, paraffin, and other methods of preparing vegetable tissues for microscopic study, accompanied and followed by a study of the slides so prepared.

TEXT-BOOK: Chamberlain's Methods in Plant Histology.

V. PLANT PHYSIOLOGY.

Required of Juniors who elect Botany or Agriculture.

SPRING TERM—The course is conducted by lectures and laboratory experiments, which aim to bring to the student a clear conception of the main facts and principles of plant physiology, and naturally supplements the histological studies of the Fall Term.

To a considerable extent the laboratory experiments are carried on in the College greenhouses.

TEXT-BOOKS: The laboratory manuals of Ganong and Macdougall.

VI. THESIS.

The first term of the Senior year is devoted to the study of some special subject, selected with reference to the taste and abilities of the students, as a preliminary to the preparation, during the winter and spring terms, of a thesis for graduation.

VII. HORTICULTURE.

Required in the Agricultural Course. The work in this subject begins in January of the Junior year and extends through two terms. The time allotted to the subject is divided between lectures, recitations, and actual practice in horticultural operations, special prominence being given to the latter feature of the course.

In the lectures are discussed the principles underlying horticultural practices; the propagation of plants; the physiological consideration upon which are based the operations of budding, grafting, pruning, training, etc.; greenhouses, their construction, heating, and management; and vegetable, fruit, and landscape gardening. In connection with the lectures, the work in the greenhouses and upon the college and experimental grounds is freely used for illustrative purposes, and occasional visits are made to the greenhouses, nurseries, market and fruit gardens in or near Lexington.

In the practical part of his studies the pupil is not only taught the best methods of doing his work, but is encouraged to seek for the principles that make such methods best. He performs for himself the various operations of seed testing and seed sowing; propagation by cutting, layering, division, etc.; budding, grafting, crossing, hybridizing, and other forms of horticultural practice.

In order to make this work of the highest value to the student, he is required throughout the course to make accurate observations and careful notes upon his progress, and upon the results of these processes.

VIII. GENERAL AGRICULTURE.

Required of Juniors in the Agricultural Course.

The subject is taught by means of lectures and text-books, accompanied by practical and illustrative exercises when the subject and weather will permit.

The course as presented here is divided into two general heads. **Soils* and *Field Crops*, and the instruction is given mainly by Prof. J. N. Harper, of the Agricultural Experiment Station.

The lectures on soils include a discussion of the physical properties of soils and their improvement by cultivation, fertilization, etc.; the relation of soils to heat, air and moisture; soil water, its movement through different kinds of soils; the influence of humus, the conservation of soil moisture, and drainage.

In the general subject of Field Crops, lectures are given upon the history, production, cultivation, fertilizers, rotations, varieties and harvesting of Kentucky farm crops, particularly tobacco, wheat, corn, and hemp.

*For the year 1903-4 the instruction on this subject was supplemented by a special course of lectures, with laboratory and field demonstrations, continued through the month of January, by Mr. Clarence W. Dorsey, of the Bureau of Soils, U. S. Department of Agriculture, under special appointment of the Secretary of Agriculture, James Wilson.

IX. ANIMAL HUSBANDRY.

The instruction under this general subject is given in the form of lectures, demonstrations, and practical laboratory exercises, by Prof. D. W. May, of the Experiment Station. It includes a study of the principles of stock feeding, stock judging, breeds of live stock, and the operations of the dairy. In each of these subdivisions the lectures are supplemented as far as possible by practical work upon the part of the student.

For the study of stock breeding, and kindred subjects, the location of the College is exceptionally favorable, situated as it is in the center of the Bluegrass region of Kentucky, with its numerous herds of high-bred horses, to which occasional visits are made as opportunity offers.

The live stock upon the Experiment Station farm, together with the various experiments in progress in feeding, dairying and in other directions, affords facilities for illustrative purposes.

THE COURSE OF AGRICULTURE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of primary importance the study of General and Agricultural Chemistry, General Zoölogy and Entomology, Botany, Horticulture, Geology, and General Agriculture.

In addition to these subjects, the student devotes considerable time to the work of other departments, including a year in English and Mathematics, courses in Drawing, French, and German, Physiology, Physics and Political Economy.

To meet the needs of young men who for any reason can not hope to complete a four years' course in Agriculture, a special course of two years has been arranged.

This course includes all of the more distinctively agricultural subjects of the full course, but does not lead to a degree. A certificate of proficiency will, however, be issued to those students who complete the studies of the entire course in a satisfactory manner.

The schedule of studies for this course will be found on another page. (See "Schedule of Studies.")

THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has been provided for young men who desire to excel in their chosen occupation of farming to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it begins in January, immediately after the Christmas recess, and continues for ten weeks. Its aim is to give to ambitious young farmers accurate and practical information on such important topics as manures and commercial fertilizers; agricultural chemistry; soils and their origin; plant life on the farm; vege-

table and fruit growing; diseases of plants; injurious insects; the principles of veterinary science, and the treatment of the simpler ailments of farm animals; care and feeding of live stock; the dairy cow; milk and the manufacture of butter and cheese.

In such subjects as will permit it, actual practice will be given in the manipulation of materials and appliances of study, such as the care of milk, practical butter-making, spraying plants for injurious insects and diseases, and in horticulture the practices of seed-sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantages by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age, or preferably somewhat older, to profit fully by this course.

To residents of Kentucky, instruction in this course will be free, the only expense being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a room can be secured at prices varying at from three to five dollars per week, so that the total expenses of a student during his entire ten weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews, at the College.

III. DEPARTMENT OF ENGLISH.

PROFESSOR MACKENZIE.

The course in the English language and literature is perhaps as thorough and comprehensive as the financial limitations of the College will permit. The training is of such a nature as to promote individuality, and to this end occasional work is done in journalism, short-story writing, etc. For the pioneer, few fields seem so fascinating as that which Posnett calls Comparative Literature. Literary criticism is but a branch of anthropology, and in attempting to trace the evolution of literature several laws are tentatively formulated. Possibly in the class lectures the booklover may find some suggestions new enough and true enough to quicken both reason and imagination.

The Carnegie Institution was intended to be an impartial friend of all studies that tend to interpret nature to man and man to himself, but as at present organized no grant is to be made for original research in art, literature or philology. Philology is a science that gives opportunities for further research, though there is no occasion to impair breadth of vision by excessive application to the microscope. Paul, Brugmann and Wundt are considered with some discrimination.

FRESHMAN YEAR.

FIRST TERM—Literature of the Nineteenth Century, English and American. A critical and philosophical study of some of the masters—books as interpreters of life—underlying unity of poetry and the fine arts—letter-writing, its history and mystery. Lectures on advanced rhetoric.

SECOND TERM—Lectures on Carlyle and some of his European and American contemporaries. As a basis for further appreciation of literature and rhetoric, one of this modern seer's works, such as *Past and Present*, or *Heroes and Hero-worship*, is studied.

THIRD TERM—Two or more plays of Shakespeare, Ben Jonson or Goldsmith. Lectures on the Drama and its technique, both ancient and modern.

Throughout the session training is given in the writing and criticism of letters and essays, which are frequent rather than long. Stress is laid upon the cultivation of a style in composition that shall be at once accurate, strong, and graceful.

SOPHOMORE YEAR.

English Literature of the Seventeenth and Eighteenth Centuries, in alternate years, including the late Renaissance, Puritan, Restoration, Augustan and Georgian periods. In addition to the "gay science," the Shakespeare-Bacon and Ossianic controversies claim attention. Lectures on the relation of literature to art, criticism, ethics, and the sciences, in order to throw light on the solidarity and scope of literature. Theme-writing and etymology are not neglected.

JUNIOR YEAR.

FIRST TERM—English literary history from the Norman Conquest to Spenser. Readings in Middle English as found in the interesting and valuable works of Thomas the Rhymer (1220-1298), Barbour, Andrew of Winton, and Henry the Minstrel, all of whom are independent of Chaucer.

In alternate years such medieval gems as are linked with the names of James I, Henryson, Dunbar, and Douglas (1474-1522).

SECOND TERM—Introduction to *Comparative Literature*. Some clues to a general theory of literary evolution from the days of primitive man. Can one principle be found that will account for the growth and decay of definite literary types—epic, dramatic, lyric—in all times and climes? Can the strictly scientific method lead to safe speculation upon the future of literature?

THIRD TERM—History of the English language; lectures on the origin of the English language, its Celtic, Teutonic, and classical elements, and its inflexions, with a glance at the way in which some words are raised to the peerage while others fall into disrepute. The psychology of persuasion is explained, and a distinction is drawn between the English of the newspaper, the novel, the pulpit, the bar, and the public platform. The principles of versification are briefly illustrated.

Students who elect Anglo-Saxon receive instruction in the parts of speech and in syntax, after which selections are read from Bede's History, King Alfred's Translations from Boethius and Orosius, and from the verse of Beowulf. The close relationship of Anglo-Saxon to our current speech is constantly kept in view, and Grimm's Law, with Verner's modification, is explained. Original research and independence of thought are fostered.

SENIOR YEAR.

Anglo-Saxon—Advanced students take up and study with some thoroughness Cynewulf's Christ. Lectures review the entire literature before the Conquest, and the Celtic literatures of Britain are not left in oblivion.

Comparative Philology—An introduction to the scientific study of language in order to learn a few fundamental principles of: (1) Semeiology; (2) Spoken language, including phonology and grammar; (3) Recorded language, including thought-writing, pictography, symbolic and ideographic writing. The course consists of lectures, but requires some private collateral reading.

Oriental Studies—For the special benefit of students of Comparative Philology, a course of elementary Sanskrit or elementary Hebrew is offered. In the one case stress will be laid upon Aryan philology, and in the other upon Semitic.

Electives—In the course of studies leading to the degree of A. B. (major study, English) Junior students may elect Greek or Latin, and are obliged to take at least one term of Analytical Geometry; Seniors may elect French, Astronomy, or Hebrew, or they may take all three.

Prize—The works of some standard author, open for competition to all regular Junior and Senior students, are offered for the best critique of the poets of Kentucky.

Senior students who take the A. B. course (major study, English) are required to write a thesis on a topic approved by the Professor of English. It must display considerable research, and be untainted by plagiarism. An original poem of at least one hundred lines in either English or Latin may be offered as an alternative.

Logic.

The Science of Logic; lectures on Pure Logic, in which Stoichiology and Methodology are explained and illustrated; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir William Hamilton; exercises in Figure, Mood, and Reduction; lectures on Fallacies and Sources of Error; lectures on Inductive and Analogical Reasoning; lectures on Evidence.

GRADUATE STUDY.

1. Gothic language and literature. 2. The origin and literary history of the Arthurian legends and romances. 3. Early Scottish literature, from Barbour (1375) to George Buchanan (1582), including Dunbar, Gavin Douglas, and Lindsay, or, 4. Such a topic as may obtain the sanction of the Professor of English, any one as a minor study. Candidates for the degree of A. M. (major study, English) are advised to take Gothic and any other study they may choose from the foregoing list. Without a previous knowledge of Anglo-Saxon, the study of Gothic is not recommended.

Gothic.—A course, especially for those who desire to know English historically, in the Moeso-Gothic and its phonological relations both to early Aryan and to later Gothic or Teutonic languages. Initiation into some of the mysteries of Anglo-Saxon, Norse, and Gothic runes, followed by a brief discussion of the 3x8 formulation of the futhork.

SEMINAR. *Old English Legal Codes.*—A special course interesting alike to the prospective law student, the philomath, and the jurist. If deemed desirable, a brief preliminary training in Anglo-Saxon syntax.

IV. DEPARTMENT OF MILITARY SCIENCE.**LIEUTENANT BURTT.**

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of the line. A full supply of arms and ammunition is furnished by the War Department for the use of the cadets in this course.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week and to attend the required lectures and recitations throughout the Freshman and Sophomore years. The standings in study and drill are placed on record, and are requisite to graduation in every course in the College.

The battalion is composed of four companies and the artillery and signal detachments. The officers are usually selected from the Junior class and the non-commissioned officers from the Sophomore class. The officers are paid a small sum for their services.

The uniform prescribed is of cadet gray; coat, trimmed with black mohair braid; trousers, with black cloth stripe, cut after the army pattern. In order that all uniforms worn here may be, in quality, make and finish, in strict accordance with the specifications adopted by the College, all students enrolled in the military department are required to obtain them from the firm only that may for the time being, be under agreement to furnish said uniforms at a stated price and of standard quality.

THEORETICAL INSTRUCTION FOR ALL MALE STUDENTS.

Infantry drill regulations, U. S. Army. Firing regulations. Manual of guard duty. Army regulations.

Lectures on the organization and administration of the United States Army, and the general principles in the art of war. Freshman and Sophomore years, one hour per week.

PRACTICAL INSTRUCTION FOR MALE STUDENTS.

Infantry.—School of the soldier, squad, company, and battalion; ceremonies; guard duty; minor tactics.

Artillery.—School of the cannoneer, and battery, dismounted; ceremonies; guard duty.

Freshman and Sophomore years, two hours per week.

THEORETICAL INSTRUCTION FOR ALL OFFICERS AND SERGEANTS.

Military administration; field engineering; elements of the art of war; preparation of reports and returns.

Sophomore and Junior years, one hour per week.

V. DEPARTMENT OF CHEMISTRY.

PROFESSOR PALMER.

The Chemical Department dates from the establishment of the institution. For many years it was under the direction of Dr. Robert Peter, who by his labors in analytical chemistry has probably done more than any other man to develop the abundant mineral resources of the State. The Department remained in the hands of Dr. Peter until 1887, when he resigned. Dr. E. A. Von Schweinitz was then appointed to the vacancy. He held the position during the collegiate year of 1887-1888, whereupon the present incumbent was appointed. For many years the chemical laboratories and lecture-room occupied the eastern part of the main College building. In September, 1880, however, the Department Station building having been completed, the apparatus and equipment were removed from the laboratories in the Main Building to more suitable and beautiful rooms on the second floor of the Experiment Station building. The lecture-room and the laboratories, qualitative and quantitative, of the Chemical Department are exceedingly well adapted to their purpose and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains three very large working tables, each of which can easily accommodate ten students. The quantitative laboratory is also well equipped with tables, hoods, water, gas, electricity, etc., and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating

capacity of about seventy-five. Besides the laboratories and lecture-room, there are several other smaller rooms on the same floor set aside for the use of the Chemical Department—an instructor's office, a balance-room, and a store-room.

APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several exceedingly delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a complete outfit for electro-plating; vapor density apparatus; a glass model ice-machine, etc. These, of course, will be added to from time to time, as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as readily to enable the student to obtain at first hand a good working knowledge of chemical science.

COURSE IN CHEMISTRY.

The Chemical course is one of the several scientific courses offered by the College. It was first offered in 1894 with the view of preparing the student for life work in Chemistry, and also with the view of fitting him for the study of medicine and kindred professions. To the accomplishment of this purpose the following course of study, extending over a period of four years, has been adopted.

STUDIES REQUIRED.

The first year is devoted to the study of English, German, Physiology, Free-hand Drawing, and Mathematics, including Plane Geometry, Trigonometry, and Algebra. The second year to German, Physics, Botany, Chemistry, and Mathematics, including Solid and Analytical Geometry and Calculus. The third year to Theoretical Chemistry, English, Calculus, French, and laboratory work on the Chemistry of the metals and on Qualitative Analysis. The fourth year to Quantitative Analysis, Organic Chemistry, Chemical Reading on advanced topics, and to Chemical Research, History and Political Economy, Logic and Mental Philosophy.

For further information as to requirements, the Schedule may be consulted, page 73.

THE TRAINING IN CHEMISTRY PROPER.

The study of Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the science and to make him enthusiastic and capable in his profession.

The course in General Chemistry, extending through the second and third terms of the second year, consists of lectures and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical

change. The lectures are abundantly illustrated by suitable and instructive experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do excellent work.

In the third year the study of Chemistry is resumed, with laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, consisting of lectures, recitations, and readings five times weekly throughout the year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development. In this connection about fifty lectures are delivered annually upon the following general topics: Ten upon the Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscope, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated of in the lectures or upon such other topics as may be assigned by the instructor. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other countries will be kept there on file. The broadening influences of such a course of study can scarcely be overestimated, and the students who complete it satisfactorily will find themselves, in some measure at least, abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals and their more important compounds, and to qualitative analysis. This work is intended to supplement the work of the first year upon the non-metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed up during the second and third with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect to pursue, together with the preparation of a thesis embodying the results of this special work. The object of such special arrangement is to perfect him in that particular branch of the science for which he shows a liking or a particular talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Theoretical and Physical Chemistry, Organic Chemistry, Agricultural Chemistry, Physiological Chemistry, general analytical work, and special analytical work on fertilizers, iron and steel and fuels.

CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in Chemistry in other courses of study, such as the Scientific, Classical, etc., is designed to meet the special needs of the student in these several directions.



THE SOUTH DRIVE.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by the way of general education.

In the Scientific Course the work extends over ten months. A portion of this time is devoted to the study of metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of students in this department. Instruction in chemistry in this course extends over a period of two terms, five months of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render them useful to the mechanical engineer, and also with reference to their mode of occurrence in nature and the methods of obtaining them from the ores.

For students in Civil Engineering a course in Chemistry has been provided, as follows: General chemistry, one term; laboratory work on the metals, one term; quantitative analysis, one term.

In the course of Mining Engineering instruction in Chemistry extends over a period of three terms, and includes the following subjects: General Chemistry, the Chemistry of the Metals, and Quantitative Analysis. In addition, one term's work in Metallurgy is required, and also one term's work in Assaying and Metallurgical practice.

For the benefit of students of Agriculture a special course in Agricultural Chemistry has been arranged, the general aim of which is to acquaint the student with the chemistry of those elements which enter into the composition of plants, and which are essential to their life and growth. A study of the composition of the soil, air, and water, and their several relations to the plant as sources of plant food, forms a large and important part of this work. Also the chemistry of tillage, irrigation, and rotation of crops, and the composition and value of commercial fertilizers and manures.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over two terms, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry; this is followed by laboratory work in the afternoon upon those elements which are regarded as essential to living things, animal and vegetable.

VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE, ASSISTANT PROFESSOR JOHNSON.

PREPARATORY.

A thorough knowledge of Arithmetic, of Algebra, through quadratic equations, as presented in Fisher and Schwatt's Higher Algebra, and of Plane Geometry, as presented in books I. to V. inclusive of Beman and Smith's Geometry, is required for admission to the Freshman Class in Mathematics.

FRESHMAN CLASS.

FIRST TERM—Wentworth's Plane Trigonometry.

SECOND TERM—Beman and Smith's Solid Geometry.

THIRD TERM—Fisher and Schwatt's Higher Algebra, from Chap. XXV.

SOPHOMORE CLASS.

FIRST TERM—Nichols' Analytical Geometry begun.

SECOND TERM—Nichols' Analytical Geometry continued; Church's Descriptive Geometry begun.

THIRD TERM—Nichols' Analytical Geometry completed; Church's Descriptive Geometry completed; Osborne's Calculus begun.

JUNIOR CLASS.

FIRST TERM—Osborne's Calculus continued.

SECOND TERM—Osborne's Calculus completed.

SENIOR CLASS.

FIRST TERM—Spherical Trigonometry and Astronomy.

SECOND TERM—Young's Elements of Astronomy begun.

THIRD TERM—Young's Elements completed.

VII. DEPARTMENT OF MODERN LANGUAGES.

PROFESSOR WERNICKE.

German.

The courses offered in German are:

G1: Three consecutive terms in elementary German.

Gs: An introduction to scientific prose (one term).

G2: Continuation of G1, involving an introduction to German literature, and practice in composition (two terms).

G3: Advanced composition. Introduction to various styles.

Gh: History of German literature based on the national history.

Gc: Advanced conversational exercises (one term).

G1: Study of some author (Schiller, Lessing, etc.).

Gph: Introduction to philology of Germanic languages.

All classical and scientific students take G1, Gs, and G2, which are given annually. Candidates for the Master's degree, if German be one of their minor studies, will be assigned G3, Gh, or Gc; if German be their only minor study, additional work may be required. Candidates for the Master's degree who select German as their major study will take two of the courses G3, h. c. 1, and ph; and present a thesis written in German (about 4,000 words). Courses G1 and Gph are primarily designed for this class of students, and will consist of lectures and weekly reports on individual work.

Romanic Languages.

This Department offers:

F1: Three consecutive terms in elementary French, taking the student through the main irregular verbs, and leading to a fair reading knowledge. Prerequisite: Some experience in the study of languages, such as is acquired in G1 *plus* G2, or in a two or three years' course in Latin.

F2: Introduction to French literature. Syntax and Composition (three terms).

F3: Advanced composition (one term).

Fh: History of French literature, consisting of lectures and weekly reports on collateral reading (two terms).

Fc: Advanced conversational exercises (one term).

S1: Elementary Spanish (two terms).

S2: Advanced Spanish (one term).

I1: Elementary Italian.

I2: Advanced Italian.

All classical and scientific students take F1, the former also F2. Candidates for the degree of M. S., if French be one of their minor studies, will be assigned F2; if French be their only minor study, further work may be required. Candidates for the degree of M. A. will take Fh if French be one of their minor studies; F3 *plus* Fh if it be their only minor. In addition thereto, those who select French as their major study will take either Fc, or S1 *plus* S2, or I1, and will present a thesis written in French (about 4,000 words).

The text-books in this Department are frequently changed, and a large portion of the instruction in all classes is independent of the manual adopted. Texts recently used are:

G1: Becker's Elementary German; Joynes-Meissner's and Thomas' Grammars; Thomas & Herve's Reader; Carmen Sylva's *Aus meinem Koenigreich*.

Gs: Hodges' Scientific German; Gore's Science Reader.

G2: Hoffman's *Historische Erzahlungen*; Freytag's *Luther*; Schiller's *Wallenstein*, Marie Stuart, etc.; Scheffel's *Trompeter*; Freytag's *Soll und Haben*; Harris' *Composition*.

G3: Lessing's *Nathan*, *Mina von Barnhelm*, *Laokoon*, etc.

Gh: Bernhardt's *Litteraturgeschichte*.

Gl: Klenze's *Gedichte*.

Gph: Paul's *Mittel-hochd. Grammatik*; Wackernagel, *Edelsteine*.

F1: Frazer & Squair's *Grammar*; Edgren's *Grammar*; Verne's *Michael Strogoff*, *Tour du Monde*; Cameron, *Tales of France*; Fontaine's *Napoleon*.

F2: Loti's *Pecheur d'Islande*; Lacombe's *Petite Historie*; Rostand's *Cyrano de Bergerac*; Whitney's *Grammar*, Part II; Grandgent's *Composition*; Luquiens' *Places and Peoples*; Herdler's *Scientific French Reader*.

Fh: Demogeot's and Aubert's *Literature Francaise*.

S1: Loiseaux, *Grammar and Reader*.

S2: Same, Knapp's *Readings*; Alarcon's *El Capitan Veneno*.

I1: Grandgent's *Grammar*; Bowen's *Reader*.

I2: Goldoni's *Comedies*; Pellico's *Prigioni*.

VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE, ASSISTANT PROFESSOR JONES.

Latin.**PREPARATORY.**

FIRST SESSION—Smiley & Storke's Beginner's Latin Book, the study involving a daily exercise in inflection and in translation from and into Latin on the blackboard; Viri Romae.

SECOND SESSION—Ten lives of Nepos; five books of Caesar; Daniell's New Latin Composition; Creighton's History of Rome; Guerber's Myths of Greece and Rome.

FRESHMAN CLASS.

Six orations of Cicero; selections from Ovid, with instruction in scanning; the first and twenty-first books of Livy; Johnson's Private Life of the Romans.

SOPHOMORE CLASS.

Six books of Virgil; Cicero De Senectute; the Captives of Plautus or Suetonius's Life of Augustus; Sallust's Conspiracy of Catiline.

JUNIOR CLASS.

Horace (except a part of the Epodes and most of the Satires), with the scanning of the more common metres; letters of Cicero and of Pliny; the first half of Bradley's Arnold's Latin Prose Composition.

SENIOR CLASS.

Tacitus—The Germania and the Agricola; the third, seventh, eighth, and tenth Satires of Juvenal; or, instead of the seventh and eighth, an essay of Seneca's; poems of Catullus; the second half of Arnold's Composition; Wilkins' Sketch of Latin Literature.

Greek.**PREPARATORY.**

FIRST SESSION—White's Beginner's Greek Book, with a daily exercise in inflection and in translation from and into Greek on the blackboard (all Greek to be written with the accents).

SECOND SESSION—Greek Reader; five books of Xenophon's Anabasis; Oman's History of Greece.

FRESHMAN CLASS.

Six books of the Iliad; selections from Herodotus; Plato's Apology and Crito; exercises in Greek syntax.

SOPHOMORE CLASS.

Four orations of Lysias; four of Demosthenes; Xenophon's *Memorabilia*, or dialogues of Lucian; exercises in syntax and prose composition.

JUNIOR CLASS.

Two books of Thucydides; poems of Theocritus, Bion, and Moschus.

SENIOR CLASS.

Three dramas (Prometheus, Medea or The Clouds, Oedipus Rex or Antigone; Jebb's Sketch of Greek Literature).

The curriculum leading to the classical degree of A. B., and set forth in the Schedule on page —, includes English, Greek, Latin, French, German, History, Political Economy, Metaphysics, Mathematics, and some Physical Science. The grouping of these studies is designed to meet the needs of those students whose tastes and aptitudes incline them to literature rather than to science; who seek not knowledge alone but culture as well, and who, moreover, desire a course of studies suited to those who are to prepare themselves for a profession, and to become teachers, preachers, physicians, lawyers, journalists, writers or scholars, or, it may be, legislators or authors.

To this brief statement of the objects kept in view in making up this group of studies it is due to this Department, and not meant to be invidious, to add, that statistics published annually by the U. S. Commissioner of Education show that, even in this country where scientific and the so-called practical studies are so strongly and so justly recommended and encouraged, that even here the classical course is from three to six times more popular than any other; while the English, the French, and the Germans, who in letters, arts, and arms rank highest in the scale of nations, devote far more attention to these studies than we. Indeed, as showing the educational trend of the most intelligent people that has ever existed, it is a fact of impressive significance that a vast *Thesaurus Linguae Latinae*, *Thesaurus of the Latin language*, and written in Latin, the product of five leading universities of the Germans, and therefore of the world, Berlin, Leipzig, Goettingen, Munich and Vienna, is now appearing from the press of Teubner. This magnificent and monumental work is to consist of twelve volumes quarto, each as large as Webster's Unabridged, and to sell, when durably bound, for more than \$200 a copy. No other language has had such a dictionary, and this *Thesaurus* is the greatest contribution ever made to the study of that language, which to every highly civilized people is more important than any other except their own; which has formed nearly half of ours and more than half of three others, and which, therefore, can not, in any rational scheme of education, be neglected or disparaged, but must retain its place if not its primacy among the most useful studies that man can pursue.

In 1903, the last year reported, there were in American colleges, universities, and technological schools, 114,130 students: In classical courses, 51,152; in other culture courses, 13,605; in general science, 7,397; in mechanical engineering, 6,800; in civil, 5,378; in electrical, 3,652; in mining, 2,244; in agriculture, 3,306; in all other courses, 3,285.

The Professors of this Department offer courses of study equal to those of the best land-grant colleges, courses as long and as varied as the grade of their students and other limitations allow. In offering them they announce that their method of instruction, so far as it is distinctive, rests on the assumption that ability to write a language well is the infallible test of a real knowledge of it. Unusual attention is therefore given to Greek and Latin composition, the first

session being devoted almost entirely to the writing of exercises. This leads directly to an accurate knowledge of the forms and meanings of words, of the rules of syntax, and of the idioms. Every student of the classes in grammar is required daily to translate on the blackboard an exercise from Greek or Latin into English, and another from English into Greek or Latin, and then to write out declensions and conjugations, with careful attention to the length of syllables and to accentuation. His work is then rapidly corrected by the teacher, who, in making his corrections, supplements the lesson of the text-book with instruction on the order of the words, on synonyms, on the derivation of English words suggested by the words of the exercise, and on other pertinent matters. This process involves great labor for the student and drudgery for the teacher, but it leads to a mastery of the grammar and to much more.

The second session is spent mostly in reading the easy Latin of Viri Romae, Nepos, and Caesar, or the easy Greek of the Reader and Xenophon, considerable attention being still directed to the writing of exercises. The student is encouraged in the habit of first reading the sentences in the Greek or Latin order of the words, and of then translating them in the English order and idiom. The translations are partly oral, partly written.

During the remainder of the courses the bright and diligent student proceeds from the easier authors to the more difficult, enlarging his vocabulary, extending and sharpening his knowledge of forms, syntax, and idioms, incidentally directing his attention to metres, geography, history, mythology, and antiquities, and perpetually and supremely to the effort to find the best English expression for the Greek or Latin thought; for, while more than a third, and that too unspeakably the most difficult third, of our own magnificent language is derived from Greek and Latin, and while the study of these tongues is therefore intensely practical to those who speak English, and indispensable to all who would thoroughly acquire it, yet it is in the intellectual training to be had from the proper translation of the Greek and Latin authors that the advocates of classical learning find their amplest justification and defense, their most cogent plea. The ceaseless quest for the clearness, force, and beauty of the best English, in order to find an equivalent for the best Greek or Latin, calls into play every faculty of the mind and gives to classical studies an educational value which, we insist, no substitute can equal.

The Germans are admitted to be the leading educators of the world. In the nine years' curriculum of their 443 gymnasia, which are their best secondary schools (corresponding to our colleges, but conferring no degrees and with fewer studies far better taught), they assign to the study of Greek and of Latin a higher educational value than to any other study.* In the 227 Prussian gymnasia, for example, Latin, by the time devoted to it, is valued at 62, Greek at 36, and mathematics, the next highest study, at 34. In the other parts of Germany the difference is greater still. In the Saxon gymnasia, Latin is valued at 72, Greek at 41, mathematics at 33; in those of Wurtemberg, Latin at 81, Greek at 40, mathematics at 33. Similarly, in the great public schools of England, including Oxford and Cambridge (with a higher estimate of mathematics, however), as well as in the Lycees, the leading secondary schools of France, the utility of the study of the Latin language as a medium of intellectual training and culture is everywhere recognized as supreme. And the results have justified the estimate. A system of education by which a host of great men, from Bacon to Gladstone, have been

*"The classical literature is, and will continue to be, the source of all our culture. It must remain, therefore, not only an indispensable but by far the most important study in our higher schools."—Frederic Gedike. And yet the German language owes little to Greek and Latin, while the English owes to them nearly half its words. The inference of course is that the study of Greek and Latin is far more useful to an American or an Englishman than it can be to a German, for the German derives culture from the study and the American or Englishman both culture and a knowledge of his language.

fitted for their splendid careers, is assuredly not a bad one, and in that system Greek and Latin have always held the first place.

The National Commissioner of Education reports that in the secondary schools of the United States there were, in 1889-1890, 100,144 students of Latin; in 1897-1898, 274,293, an increase of 174 per cent., and greater than any other study; that in the same nine years the students of Greek increased from 12,869 to 24,994, an increase of 94 per cent.; and that in 1897-1898, 49.44 per cent., almost exactly one-half of all the students of secondary schools, were studying Latin. When the immense number of classical students in the 629 colleges and universities of the United States is added to the 300,000 and more now in our secondary schools (314,856 in 1900), it will be plain that there is no decline in the demand for classical learning. (1903, total classical students in schools of all grades, 413,091.)

While no wise man will seek to disparage or unduly to exalt any branch of knowledge, it is not invidious to say that though the vast expansion of science during the wonderful nineteenth century has contributed enormously to the comfort and the glory of man, yet an immense majority in the civilized nations will continue to feel more interest in man and his doings than in matter and its properties, more in literature than in science, and more in the applications of science than in its principles and processes.

Greek, the marvelous tongue of the most intellectual of all the races, the repository of a fine literature, in the crowded curricula of American schools, especially of coeducational schools, will, for ordinary students, naturally give place to the easier and more practical French and German. The more gifted or ambitious, who seek high scholarship and a more liberal culture, will learn Greek, and of course French and German. Nay, when a student of high spirit finds that notes to so common a work as Macaulay's History or Buckle's are in eight languages, he will be ashamed to skip any, and he will not be satisfied till he can read them all, including those in Greek.

It is timely to add that after long and earnest debate, the proposition to substitute French and German for Greek in the course for A. B. at Oxford and Cambridge has lately been voted down by a great majority. A needless wrangle, easy to settle once for all by giving a higher degree to those who learn all these languages and a lower to those who omit Greek.

IX. The Academy is described after the Collegiate Departments.

X. DEPARTMENT OF PEDAGOGY.

PROFESSOR WHITE.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 22 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

Acting under the clause above quoted from the incorporating act, the authorities of the College have organized two distinct but closely related sub-departments of work for teachers. These are the Normal School and the College course in Pedagogy; the one designed to prepare teachers for the elementary schools; the other for secondary schools and colleges.

In this arrangement the State College of Kentucky is unique and possesses a distinct advantage. Through the Normal School it comes into close and sympathetic touch with the masses of the teachers throughout the State, and through the college course it comes into vital contact with the more advanced teachers and the higher schools.

Many students who come to the Normal School are led, as the result of what they see of the college work, to undertake an advanced course. The Normal School thus discharges a function whose value can not be overestimated, in that it introduces many of the most intelligent youths of the State to the facilities which the College can offer them.

THE COLLEGE COURSE IN PEDAGOGY.

In 1893, the College authorities, in response to a strong demand for advanced instruction for teachers, organized a full collegiate course with Pedagogy as a major. This action put the State College on a par with other institutions in the North and West, for there are few State universities in those sections that do not support a department for the advanced teaching of education.

This course is co-equal in number and difficulty of subjects, in the time required for its completion, and in disciplinary and cultural value, with the other full collegiate courses. The purpose of the course is to fit young men and women for the best service as teachers in high schools, academies, and colleges.

To realize this purpose the course offers, in addition to the usual amount of work in science, language and mathematics, specialized instruction in the following subjects, which give to this course its distinctive character.

GENERAL PEDAGOGY.

In the third term of the Sophomore year the student is given a general view of the whole field of Pedagogy through a synoptic outline of the subject. The purpose is to present enough of each topic in Pedagogy to show the trend of each important question in modern education. The work is carried on both by lectures and class discussions.

PSYCHOLOGY.

In the first term of the Junior year, the subject of Psychology is presented, chiefly with reference to its value to the teacher. Psychology is treated as a basis of the science of education and the art of teaching. No time is spent in mere speculative discussions, but from the very first the effort is made to connect the subject vitally with the teacher's actual work in the school. Especial attention is given to the mind's functions in Acquiring, Assimilating, and Expressing. The value of Psychology also is shown as the basis of Methodology, and of Educational Economy.

The text-book is "Psychology in Education."

In the second term of the Junior year, a few more of the valuable topics in higher Psychology are taken up. The special Psychology of some of the advanced branches will be studied.

The work will be library research, lectures, and class discussions.

EDUCATIONAL ECONOMY.

In the third term of the Junior year, the different subjects comprised under the general term "Educational Economy," are taken up in detail. No text-book is used, but the well-stocked library of the Department is put at the service of the students, and from all available sources they are expected to work up such subjects as (1) the organization and administration of the individual school, in country and city; (2) the organization and administration of State and city systems of schools; (3) the course of study; (4) fatigue; (5) buildings and grounds; (6) control and discipline; and (7) the correlation of the school and the community.

These topics are discussed with constant reference to their underlying psychological and sociological principles.

This term's work is particularly suited to those who are preparing for principalships and county or city superintendencies.

METHODOLOGY.

Through the first term in the Senior year the student carries the work in Methodology, all of which is based directly upon Psychology.

The principles of general method, and the special methods of each school subject are thoroughly discussed, and much drill is given in the making of lesson-plans.

The text-book used is "Method in Education."

THE HISTORY OF EDUCATION.

The second term in the Senior year is devoted to the History of Education.

It is found much the best plan to place this study last in the curriculum, because by the time it is taken up the students in Pedagogy are sufficiently familiar with the different divisions and problems of the subject to understand and interpret the history of educational development.

The text-book used is "Seeley's History of Education," but in this subject the library is fully used.

PROFESSIONAL READING.

For a student to get the best results from the study of any subject, he should read as widely as possible in the literature of the subject. This is especially true of education, which has such a wealth of literature and touches closely so many other subjects. One term, and when possible more time, is devoted to the reading and analysis of such books as Butler's "The Meaning of Education," Jordan's "The Care and Culture of Men," Hanus' "Educational Aims and Educational Values," Henderson's "Education and the Larger Life," Hinsdale's "Jesus as a Teacher," etc.

The department library is well stocked with the best pedagogical literature, and pupils are urged to make constant use of it.

OBSERVATION WORK.

As much time as possible is used by the students in visiting schools in the city of Lexington and the rural districts near by. Reports upon this observation of the work of experienced teachers are prepared and handed in by each pupil, and form the basis of class discussions.

THESES.

Each candidate for the Bachelor's Degree in Pedagogy is required to write a thesis upon some theme assigned by the Dean. This work must be done acceptably and a copy of the thesis left with the Department.

XI. DEPARTMENT OF CIVIL ENGINEERING.**PROFESSOR BROOKS.**

The course of civil engineering is planned to acquaint the students with the knowledge of the subjects necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches. So far as is possible, the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable, not only for the professional uses, but also from an educational standpoint; therefore, while the student is learning each subject, both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History and Political Economy.

EQUIPMENT.

The Department of Civil Engineering occupies the second floor of Engineers' Hall, which contains an office and recitation and drawing-rooms for the accommodation of classes of twenty-five students. The drawing-room is equipped with tables, boards, drawing paper, and all the larger and more expensive drawing instruments, which are at the disposal of all students. The surveying instruments belonging to this Department are of the highest grades of the various makers, and among them are included five transits—one each by Buff & Berger, Heller & Brightly, Keuffel & Esser, Mahn, and Ware; three levels by Gurley, Brandis, and Seelig & Kandler; a sextant by Gurley; a compass by Gurley; a plane-table by Keuffel & Esser; a precise pantagraph, and a solar instrument by Saegmüller, together with level and stadia rods, tapes, and other minor accessories. The library for the use of students in engineering contains a well selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

The technical studies in the Course of Civil Engineering fall under the heads of Drawing, Surveying, Construction, Applied Mechanics, Bridge and Machine Design, and Sanitary Engineering.

LABORATORIES.

Instruction is given in the Physical Laboratory during the first term of the Sophomore year, and in the Chemical Laboratory during the second term of the Junior and Senior years.

DRAWING.

The work in drawing is begun in the first term of the Freshman year, and consists of free-hand sketching from models, engineering structures, and from drawings, and in practice in the use of drafting instruments. In the Sophomore year the time is occupied in mapping, with exercises in topography, and special attention is given to the rapid and accurate formation of Roman and other appropriate styles of letters. In the second term, four hours a week are devoted to the solution of problems in Descriptive Geometry. During the winter of the Junior year a topographic map is plotted from notes of a survey made by the class during the autumn. Such a map made by the present Junior class embraces four city blocks, a farm of about two hundred acres, and was plotted on a scale of two hundred feet to an inch. One hour a day during the second term is devoted to problems in stone-cutting. A topographic map of railroad location, with cross sections and profile, is completed in the third term, and graphic analyses of frame structures are made during the year. In the Senior year the work in drawing consists of problems in design and of construction details.

TEXT-BOOKS: Church's Descriptive Geometry; Siebert & Biggin's Stone Cutting; Reinhardt's Technique of Mechanical Drafting.

SURVEYING.

The course in Surveying is begun in the second term of the Sophomore year, with the study of text-books on the theory of plane surveying, supplemented by ample practice in the solution of numerical examples. This is followed by daily field practice in the use and adjustment of surveying instruments, with exercises in leveling, determination of inaccessible distances, and in farm surveys. In the first term of the Junior year a topographic survey of a tract of land adjacent to the College property is made, based on a system of accurate triangulation. In the second term the theory of railroad surveying is studied, especial attention being given to spirals and other modern features of railroad practice. A line of railroad is run and cross sectioned, and an estimate made of the cost of construction. The study of Geodesy is taken up in the Senior year, embracing the theory of adjustment of a system of triangulation and the methods of determining latitude, longitude, and azimuth. The State College system of triangulation has been begun and will be yearly perfected and extended by the Senior classes.

TEXT-BOOKS: Merriman and Brooks' Hand-book for Surveyors; Brooks' Street Railway Location; Nagle's Railroad Engineer's Field Book; Merriman's Geodetic Surveying.

CONSTRUCTION.

The methods of construction are taught by lectures on limes, cements, wood, steel, and other building material; on principles of foundations on land and under water; on masonry walls and dams; on roads, railroads, and street paving; on the theory and erection of arches; on tunneling, and on the construction of high steel buildings. The lectures include descriptions and sketches of notable existing structures and short excursions will be arranged for the class as often as possible. The latest methods of conducting tests of cement, iron, steel, wood, brick and other material are practiced by each student in the well-equipped laboratory belonging to the College.

TEXT-BOOK: Baker's Masonry.

APPLIED MECHANICS.

The work in Applied Mechanics extends over the Junior and Senior years, and includes the theory of the strength and elasticity of beams, columns, and shafts; of stresses in framed structures and arches; of the theory of dynamos and steam engines and its application to pumping and hoisting machinery and to locomotives.

TEXT-BOOKS: Merriman's Mechanics of Materials; Unwin's Elements of Machine Design; Merriman & Jacoby's Roofs and Bridges, Parts I and II; Barr's Pumping Machinery; Bowser's Analytic Mechanics.

BRIDGE DESIGN.

The course in Roofs and Bridges is begun in the first term of the Junior year and continues through two years. The theory of computation of stresses by both analytical and graphic methods is thoroughly taught from the text-book and numerous numerical examples. At the beginning of the Senior year, the design of bridges is begun, and the method of instruction is to proceed from the simple to the complex. The outline and details of existing structures are examined, and the student becomes familiar with drafting-office methods by constant reference to working drawings.

TEXT-BOOKS: Merriman & Jacoby's Roofs and Bridges, Part III; Howe's Roof Design.

SANITARY ENGINEERING.

The work in Hydraulics includes the study of the flow of water through orifices, pipes, and large channels; the theory and tests of water motors and the measurement of power. In Sanitary Engineering the course comprises the consideration of the separate and combined systems of sewerage; the methods of sewage disposal, and the collection, purification, and distribution of a system of water supply.

TEXT-BOOKS: Merriman's Hydraulics; Ogden's Sewerage.

XII. DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSORS ANDERSON AND FAIG, ASSISTANT PROFESSOR WILSON.

EQUIPMENT AND FACILITIES.

This department was organized in August, 1891, and is now one of the most completely equipped in the College. Mechanical Hall contains a floor area of about 20,000 square feet, is constructed of stone and pressed brick, and is well furnished with modern conveniences for work in Mechanical and Electrical Engineering. The building contains three recitation-rooms, two drawing-rooms, three offices, a wood and pattern shop, two boiler-rooms, wash-room, tool-room, engine-room, two machine-shops, blacksmith shop, foundry, and two large rooms devoted to experimental engineering. A two-story brick building is well equipped for work in photometry and magnetic measurements. The building is isolated, so that absolute work may be carried on. A first-class technical library is at the disposal of all students in Engineering. The equipment of the different rooms is briefly described below.

The drawing-rooms contain drawing tables, drawing boards, curves, scales, T-squares, and other special drawing apparatus, to accommodate one hundred students.

The engine-room contains a 10-inch by 24-inch Hamilton-Corliss non-condensing engine, which supplies the motive power for all the work-shops.

The wood-shop contains twenty benches, each with a complete set of wood-working tools, twenty-three woodturning lathes, each with a complete set of turning chisels, band-sawing machines, universal wood-worker, wood-trimmer, hand-mortiser, fret saw, double circular saw, and grindstone.

The foundry contains a 30-inch cupola furnace, with a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of molders' tools, twelve benches; also ladles, clamps, core-room, core-oven, pattern-rack, and the tools used in a practical foundry.

The blacksmith shop is equipped with eighteen forges. The down-draft system is used. Each forge is furnished with an excellent set of blacksmith tools. A power hammer is available for heavy iron or steel forging.

The forge shop represents the best modern practice.

The machine-shop contains six lathes, one milling machine, one self-feed drill, one hand-feed drill, one planer, one shaper, one tool-grinder, one dry emery grinder, one wet emery grinder, one universal grinding machine, two sensitive drills, and twelve iron vises and benches for vise work in metal, an air compressor and pneumatic tools.

The tool-room is equipped with a fine assortment of superior tools for work in iron, steel, brass, and wood, and contains such stock and supplies as may be used in constructions in the mechanical laboratories named above.

The wash-room contains lockers for one hundred students, and is supplied with marble basins.

The boiler-houses contain, respectively, a fifty horse-power Babcock and Wilson water-tube boiler, a Dean Bros.' No. 3 steam pump, and a fifty-five horse-power tubular boiler, and a Davidson No. 3 steam pump.

The Experimental Laboratory is the best equipped in the South, and besides being well supplied with steam engine indicators, planimeters, steam gauges, pyrometers, reducing motions, scales for measuring, micrometer, and Vernier calipers, thermometers, calorimeters, sieves, cement samplers, scales for weighing, extensometers, water-meters, etc., it contains a thirty-five horse-power Westinghouse compound engine, a forty-horse-power Houston, Stanwood & Gamble cross compound throttling engine, a twenty-five-horse-power automatic cut-off engine, a ten-horse Corliss engine, a thirty-five-horse-power Buffalo automatic cut-off engine, a ten kilo-watt Crocker-Wheel dynamo, an eight and a half kilo-watt Edison dynamo, a nine kilo-watt General Electric Company multipolar dynamo, a three and a half kilo watt electro motor, a three-fourths kilo-watt electric motor, a Bracket-cradle dynamometer, portable voltmeters, and ammeters for continuous and alternating currents, wattmeters, photometers, galvanometers, instruments for absolute measurements of E. M. F. resistance and current, a Wood thirty-three kilo-watt alternator, a switchboard equipped with the most modern instruments, resistance boxes, and many instruments for refined investigation.

The equipment for the study of Telephony is the product of the American Electric Telephone Company. It comprises a varied assortment of subscriber apparatus for both the central energy and the local battery systems, connected for operation with a small switchboard having the apparatus necessary to show the operation of a four-party selective system, as well as the ordinary central energy and magnet systems.

The laboratory also contains a number of friction brakes, a Flather hydraulic dynamometer, a 1,000-pound United States standard cement testing machine, and a 100,000-pound Riehle testing machine.

A double engine of fifty-horse-power and an automatic cut-off engine (Atlas) have recently been added.

The equipment of the laboratory is such that many problems relative to Steam and Electrical Engineering may be discussed very comprehensively.

COURSE OF STUDY.

The training given in this course, both practical and theoretical, is intended to prepare young men for positions of responsibility and trust in mechanical engineering work. The practical work extends over a period of two years, and includes the most important principles and operations in bench-work, in wood, wood-turning, pattern-making, foundry-work, iron and steel forging, and hand and machine work in metal.

The theoretical work during the first two years consists of a thorough training in English, Chemistry, Mathematics, Physics, and Drawing, and during the last two years the fundamental principles of boiler, machine, dynamo, and engine designs are taken up. By a careful solution of practi-

cal problems, the student becomes familiar with the process carried on by the operators and designers of successful machine-building plants.

The course in Mechanical Engineering involves three separate lines of work:

1. *Mechanical Engineering*, the object of which is to give that training necessary to fit men to be operators and designers of steam machinery and manufacturing plants.

2. *Chemical Engineering*, intended especially to give the knowledge requisite for the successful operation of iron and steel plants and the analysis of iron, steel, coals, and refractory substances.

3. *Electrical Engineering*, in which the theory, design, building, and operation of dynamos and motors are predominant.

Particular attention is paid to the construction of power and lighting stations.

The course of study in Mechanical and Electrical Engineering, extending over a period of four years, leads to the degree B. M. E. (Bachelor of Mechanical Engineering). The advanced degree of Mechanical Engineer may be obtained by resident students in one year after taking the degree of B. M. E. from the State College of Kentucky or any other institution of equal requirements, they having successfully carried on the work laid down, passed a satisfactory examination, and presented an acceptable thesis. The advanced degree may also be taken in three years after obtaining the degree of B. M. E., provided the student has been engaged during the period of three years in practical engineering work, passes a satisfactory examination at the College, and presents an acceptable thesis.

At least two years' notice must be given to the Faculty that post-graduate work is done, and the work must be approved by the Faculty.

FRESHMAN YEAR.

Technical Instruction—Twenty-six weeks, three hours per week. (a) Recitation on the forms of wood-working tools and the cutting and peculiarities of timber. (b) Lectures on the operation of the various forms of wood-working machinery. (c) Lectures on pattern-making, molding and casting.

Mechanical and Free-Hand Drawing—Twenty-six weeks, six hours per week, and ten weeks, ten hours per week. (a) This drawing includes free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models. (b) Free-hand lettering. (c) Exercises in tinting and shading. (d) Tracing.

Shop-work—Thirty-six weeks, twelve hours per week. (a) Bench-work in wood, including exercises in the following operations; Planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling, and the general use of carpenters' tools. (b) Wood-turning, involving the various principles of lathe-work in wood. (c) Pattern-making, which gives the student discipline in the construction of patterns for foundry work. (d) Foundry work, including the various operations of molding, core-making, and the molding of iron and brass.

English—Thirty-six weeks, five hours per week.

Algebra—Ten weeks, five hours per week.

Solid Geometry—Nine weeks, five hours per week.

Trigonometry—Thirteen weeks, five hours per week.

Physics—Twenty weeks, five hours per week.

SOPHOMORE YEAR.

Technical Instruction—Sixteen weeks, one hour per week. (a) Lectures on the handling of iron and steel in forging, and the methods of tempering and annealing steel. (b) Lectures on modern machine-shop practice.

Mechanical Drawing—Sixteen weeks, four hours per week; thirty-six weeks, five hours per week. (a) Drawing the parts of machines and complete machines to scale. (b) Geometric and Descriptive Geometry, problems. (c) Design of machine details.

Shop-work—Thirty-six weeks, twelve hours per week. (a) Exercises in iron and steel forging. (b) Exercises in vise-work in metal. (c) General machine work, including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

Descriptive Geometry—Nineteen weeks, five hours per week.

Physical Laboratory—Seventeen weeks, five hours per week.

Analytical Geometry—Thirty-two weeks, five hours per week.

Chemistry—Nineteen weeks, five hours per week.

Surveying—Nineteen weeks, three hours per week.

Metallurgy—Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

Calculus—Ten weeks, five hours per week.

JUNIOR YEAR.

Kinematics—Fifteen weeks, five hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, and the manner of designing trains of mechanism.

Mechanical Drawing—Thirty-six weeks, ten hours per week. The work consists of Kinematic Drawing, including spur, bevel, worm and spiral gearing; Design of Shop Machines, such as lathes, planers, shapers, drills, etc., including an original design by each student of some shop machine complete, with all detail drawings.

Chemical Laboratory—Fifteen weeks, six hours per week.

Analytical Mechanics—Twenty weeks, five hours per week.

Strength of Materials—Fifteen weeks, five hours per week.

Heat—Ten weeks, five hours per week.

Experimental Engineering Laboratory—Fifteen weeks, six hours per week.

Magnetism and Electricity—Fifteen weeks, five hours per week.

Graphic Statics—Ten weeks, five hours per week.

Calculus—Twenty-two weeks, five hours per week.

Electrodynamic Machinery—Ten weeks, five hours per week.



MAIN BUILDING.

CHEMISTRY BUILDING.

Theory of Machine Design—Ten weeks, five hours per week.

Dynamo and Motor Design—Ten weeks, five hours per week.

Electrical Appliances—Ten weeks, five hours per week.

SENIOR YEAR.

Thermodynamics—Fifteen weeks, three hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine.

Steam Boilers—Ten weeks, five hours per week. A study of the various commercial steam boilers, consumption of fuel, incrustations, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of transmission.

Valve Gearing—Fifteen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

Hydraulics—Fifteen weeks, two hours per week.

Alternating Currents—Seventeen weeks, five hours per week.

Mechanical Drawing—Seventeen weeks, ten hours per week. This consists in working out valve gear problems.

Engine and Machine Designing—Fifteen weeks, five hours per week. A study of the modern methods of designing engines, boilers and machines.

Experimental Engineering—Fifteen weeks, ten hours per week. Includes a study of the steam-engine indicator, making engine boiler, and materials for construction tests.

Political Economy—Ten weeks, five hours per week.

Theory and Practice of Photography—Ten weeks, five hours per week.

Continuous Current Dynamos and Motors—Nineteen weeks, five hours per week.

History—Twenty weeks, five hours per week.

Dynamometers and Measurement of Power—Twelve weeks, five hours per week.

Thesis Work—Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second and third terms of the Senior year is given to the preparation of this thesis. The subjects for these are assigned to students by the Dean of the Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a reference for future investigators.

ELECTRICAL ENGINEERING.

The special work in electrical engineering is closely associated with steam engineering and machine design, but opportunity is offered for carrying on research work. The thesis of any candidate for B. M. E. may be along electrical lines.

The instruction is carried on with special reference to the needs of the practical electrical engineer. This work comprises the study of Central

Station design and construction, of prime movers, the design and construction of electrodynamic machinery, the study of the problems involved in the distribution of electric light and the electric transmission of power, besides practice in electrical measurements, computation, and testing as applied to the construction and maintenance of electrical lighting and power plants, and to the purposes of investigation.

JUNIOR AND SENIOR INSPECTION TRIP.

Annual trips, for the purpose of inspecting manufacturing and power plants, are taken by the Junior and Senior Classes. The Juniors, for several years, have visited Cincinnati, Hamilton and Dayton. During the last three years, the Seniors have visited Chicago and its vicinity on the annual trip.

During the Spring Term, four days are set apart for the Junior trip and six for the Senior. The experiences of these trips are considered to be among the most valuable of the engineer's collegiate life.

SUMMER SCHOOL OF MECHANIC ARTS.

The regular curriculum in Mechanical and Electrical Engineering has no elective course. In order to provide opportunity for instruction in them, a Summer School has been established, which continues in session ten weeks. In this school instruction is given in all the subjects taught in the regular course of Mechanical and Electrical Engineering, as well as in elective courses of the Mechanic Arts.

The Summer School is designed especially for technical students, locomotive engineers and firemen, stationary engineers, artisans and mechanics. Special attention is paid to courses in Mechanical Drawing, Machine Design and Shop-work.

XIII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

DR. PRYOR.

The Department of Anatomy and Physiology occupies one-half of the second floor of the Natural Science Building. The space assigned to this Department includes a large lecture and general recitation-room, an office, and a laboratory.

The lecture-room is provided with a Colt's Criterion Stereopticon with a microscopic attachment. Arrangements are made to darken the room for the use of the lantern. This method of giving illustrated lectures is extensively used. A large number of lantern slides have been purchased or made. These include all kinds of anatomical, physiological, histological and pathological subjects, and they have been selected in order to show not only human anatomy but sufficient comparative anatomy to illustrate the development and evolution of the organ or system.

This method of instruction is quite popular with students. It affords a detail not to be obtained from models or charts or from subjects for dissection.

The lecture and general recitation-room is perhaps the best equipped room for its purpose to be found in any institution of the South. It is well lighted and ventilated, is provided with the best opera chairs with arm rests, affording every convenience and facility for student and lecturer.

The office contains the nucleus of a library. It is the purpose of the head of this Department to provide students with the latest and best books on Anatomy, Physiology, Hygiene, Histology, and Bacteriology.

The laboratory is provided with a Bausch & Lomb incubator, microscopes, microtomes, paraffin bath, etc. Tables are provided for individual students. Each table is equipped with the apparatus necessary for experimental work in Physiology. Students also have access to and use the kymograph, artificial circulation scheme (Porter's) capillary electrometer, artificial eye (Kühne's), heart-holder, ergograph, rheochord, plethysmograph, tambour, signal magnet, etc.

The Department is supplied with all kinds of models, such as an Auzoux papier-mache manikin, Auzoux's models of the eye in full and in section, models of the ear, larynx, side of the face, hand, etc.; skeletons in full and in section; complete disarticulated skeletons for the individual use of students; a spaced skull; a Thoma-Zeiss Hæmacytometer; a Dudgeon's and a Marey's Sphygmograph; charts of all kinds, microscopes, etc. Microscopic slides are exhibited, showing the process of karyokinesis.

The method of instruction is by lectures, demonstrations and recitations. Drawings are made on the blackboard in chalk by the instructor, and the student is required to copy them. They include drawings of the heart and of the great blood-vessels in colors; sections of the eye, showing the connection of the cornea and sclerotic coat at the origin of the ciliary muscle, one turn of the cochlea giving the organ of Corti in full; the membranous labyrinth; a cross section of the spinal cord; a scheme illustrating the system of neurones, central and peripheral, both motor and sensory.

The student is required to take notes from lectures, to copy and preserve them for study and reference. The note books are inspected at intervals, correct spelling and neatness in preparing them being insisted on.

All students who take the course leading to the degree of B. S. are required to attend lectures two terms of twenty weeks, five hours per week, during the Freshman year, and one term of fifteen weeks during the Sophomore year. The same amount of work is required of candidates for the degree of B. Ped. and B. Agr. Candidates for the degree of A. B. are required to attend during the first term of the Sophomore year. Two classes for ten weeks are organized at the beginning of the second term for the benefit of Normal students who take the studies leading to the County Certificate.

COURSE PREPARATORY TO THE STUDY OF MEDICINE.

This course, leading to the degree of B. S., with Anatomy and Physiology as the major study, is arranged to suit students who intend to enter

upon a profession, and especially those who are to devote themselves to the study of medicine.

The studies of the Freshman and Sophomore years are identical with those of the other scientific courses, except that there is an additional course in Botany during the third term of the Sophomore year, and an additional course in Physics in the afternoon of that term. Students who take this course have the advantage of work in the X-rays.

The principal differentiation from the other scientific courses is found in the Junior and Senior years. The first term of the Junior is devoted to the following studies: Systematic Zoölogy, Osteology, French, and laboratory work in Chemistry, the second term to Organic Chemistry, Osteology, French and laboratory work in Zoölogy; and the third term to Physical Chemistry, Osteology, French, and Physiological Chemistry. The first term of the Senior year is devoted to French, History, Logic, Geology, and laboratory work in Physiology; the second term to Entomology, History, Metaphysics, Physiology, and thesis work; and the third term, to Entomology, Political Economy, Moral Philosophy, Physiology, and Embryology.

The Laboratory Course in Physiology—Is required of Seniors during the first term in the afternoon from 2:30 to 4:30. The work begins with the central nervous system. The first exercise begins with the study of the normal frog; its posture when at rest; its movements when in water and on solids; compensatory movements, etc. A careful dissection of the frog's brain and drawings of it are made. Then follow experiments upon decerebrized frogs. Perfect cleanliness and aseptic surgical methods are observed as nearly as possible. Reflex action and inhibition of reflexes are studied with the pithed frog. The crayfish and earthworm are also used in the study of the central nervous system.

Muscle—The student must familiarize himself with the electrical apparatus necessary for the work that follows; nerve muscle preparations are made, the different kinds of stimuli are studied, graphic records are made with the kymograph, showing certain phenomena of muscular contraction, among them a single muscular contraction or twitch; the effect of load; repeated stimulation; summation of stimuli; superposition in tetanus, etc.

Haemodynamics—The artificial scheme used, which illustrates the mechanics of the circulation in the higher vertebrates, demonstrates arterial and venous pressure, and this is measured with mercury manometer. The scheme also shows the conversion of an intermittent stream into a continuous flow. Incompetence and stenosis of the mitral and aortic valves are demonstrated and with the thistle tube and kymograph pulse-tracings are made that compare favorably with those made with the sphygmograph by members of the class. Abnormal cases are often included.

Normal Haematology—Clinical examinations of the blood are made, including the enumeration of the blood corpuscles with the Thoma-Zeiss haemocytometer; the estimation of haemoglobin with Fleischl's haemometer; the staining and fixing of blood corpuscles; the reaction and specific gravity of blood, etc.

The Special Senses—The anatomy, gross and minute, of the eye and ear, and the physiology of these organs, are treated as fully as the time permits.

During the year students dissect such mammals (dog, cat, and rabbit) as may be used to illustrate the lectures preceding and accompanying the practical work. Especial attention is given to the gross anatomy of the viscera, thoracic, abdominal and pelvic.

Every effort is made to stimulate and maintain interest throughout the course.

The students who complete the four years' course will be credited with one year's work at many of the Medical Colleges belonging to the American Association of Medical Colleges. Credit is also given for other work done. To a prospective student of medicine the advantages of this course can hardly be estimated. The additional training in Botany, Physics, Zoölogy, Osteology, Embryology, Chemistry, Physiological Chemistry, and in experimental and laboratory work in Physiology, places him far in advance of those who have not pursued these studies.

As a prerequisite to entrance upon this course, students must have completed the Classical Course of the Academy, or its equivalent.

To those who are to become students of medicine, this Department offers inducements rarely enjoyed in educational institutions.

TEXT-BOOKS: Martin's Human Body, Stewart's Manual, Syllabus of the Professor's lectures.

BOOKS OF REFERENCE: Gray's Anatomy, Gerrish's Anatomy, Shaefer's Physiology, Hall's Physiology, American Text-Book, Loeb's Physiology of the Brain.

XIV, XV. DEPARTMENTS OF GEOLOGY AND ZOOLOGY.

PROFESSOR MILLER.

Geology.

EQUIPMENT AND FACILITIES.

This Department occupies one-half of the second floor of the Natural Science Building.

The Geological Laboratory is fitted up with tables and chairs and contains the study-collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral-testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, tables, lantern stands, sliding blackboard, wall screen, and means for quickly darkening the room, is admirably adapted for recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum, occupying the entire third floor of the building, now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this Department.

As additional equipment may be mentioned the Department library of geological literature, consisting of reports, both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located as it is in the center of the Bluegrass Region, at the base of the Geological Series of the State, it affords logically the best starting-point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid. Both for this reason, therefore, and because geology is pre-eminently an outdoor study, the "Excursion" is made a prominent feature of the instruction in this Department. It is by the field-work these excursions afford that the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows: (1) Palæontology; (2) Mineralogy; (3) Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are two self-contained studies; (4) A Shorter Course in Geology and (5) Economic Geology.

II. PALÆONTOLOGY.

SECOND TERM—Required of Juniors who elect as their major study Geology, Botany, Zoölogy, Anatomy and Physiology, or Pedagogy.

Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

II. MINERALOGY.

THIRD TERM—This study follows Palæontology, and is required of the same students, with the addition of those who elect Agriculture as their major.

The object of the study is to render the students familiar with the composition and physical characters of those common minerals and rocks likely to be met with both in course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination and his Common Minerals and Rocks are the books used.

III. ADVANCED GEOLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Botany, Zoölogy, or Pedagogy.

Candidates for A. B. may take this or course IV.

It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning of doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

TEXT-BOOK: Scott's Introduction to the Study of Geology.

IV. SHORTER COURSE IN GEOLOGY.

FIRST TERM—For Seniors who are candidates for the degree of A. B. The only prerequisite for this course is the second term of Zoölogy.

TEXT-BOOK: Brigham's Text-book of Geology.

SECOND TERM—Required of students who elect as their major study Geology, Agriculture, Chemistry, Physics, Civil Engineering, or Mining Engineering.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General and Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming Minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal, Petroleum; Natural Gas and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

TEXT-BOOK: Tarr's Economic Geology, supplemented by lectures.

In addition to the above, a course of about seven lectures on the Relation of Geology to Agriculture is given in connection with the Short Course in Agriculture.

Zoölogy.

EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this, there is a complete general equipment for all lines of zoölogical work, such as a full set of zoölogical charts, imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffin baths for work in microscopy; a selection of type skeletons to illustrate osteology; alcoholic specimens of both marine and inland forms to illustrate general Zoölogy, with duplicates for class dissections; and finally the Department is equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting, zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

BRANCHES OF STUDY.

These are six, enumerated as follows: (1) Systematic Zoölogy; (2) Laboratory Zoölogy; (3) Osteology; (4) Embryology; (5) Physiological Psychology; (6) Economic Entomology.

I. SYSTEMATIC ZOÖLOGY.

FIRST TERM—Required of students who elect as their major study Geology, Zoölogy, Botany, Agriculture, Chemistry, Pedagogy, Anatomy and Physiology, or Physics.

A general presentation of the subject is here attempted. The practical work is limited to that which can be satisfactorily accomplished in exercises of one hour each. Alternating with lectures on the different sub-kingdoms, classes and orders of animals, accompanied with some species determination by the student, a text-book, Arthur Thompson's *Animal Life*, is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, The Past History of Animals, The Doctrine of Evolution, Heredity, Animal Life, and ours.

II. LABORATORY ZOÖLOGY.

SECOND TERM—Required of those who elect as their major study Zoölogy, Geology, Botany, Pedagogy, Anatomy and Physiology, or Agriculture.

The work of this term consists largely of animal dissection, and it also involves an extensive use of the compound microscope. Students are taught not only how to examine under the microscope living organisms of small size, but also to prepare these and the tissues of higher animals as permanent mounts for microscopical study.

Laboratory Text-book: Needham's *Zoölogy*, furnished to each student as a part of the equipment, for the use of which a small fee is charged.

THIRD TERM—This term is devoted to laboratory work exclusively, and this consists of a thorough study of the anatomy and development of some vertebrate, as the frog.

III. OSTEOLOGY.

FIRST TERM—Required of students who elect as their major study Zoölogy, Anatomy and Physiology, or Geology.

Five hours a week are given to the comparative study of the vertebrate skeleton—chiefly that of Mammalia.

TEXT-BOOK: Fowler's *Osteology of the Mammalia*.

IV. EMBRYOLOGY.

THIRD TERM—Required of Juniors who elect as their major study Zoölogy, Anatomy and Physiology or Agriculture.

Five hours a week are assigned to this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

TEXT-BOOK: Balfour's Elements of Embryology.

XVI. DEPARTMENT OF PHYSICS.

PROFESSOR PENCE.

EQUIPMENT AND FACILITIES.

The Department of Physics occupies three rooms in the basement of the main College building. The principal lecture-room is eighteen feet by forty-four feet. The laboratory is twenty feet by twenty-four feet. The third room is twenty feet by twenty-four feet, and is used for both lecture and laboratory work. These rooms are furnished with seats, cases for apparatus, working tables, electricity, gas, water, and drainage. One table is on piers. There is also a dark room.

The equipment of apparatus for experimental and demonstrative work is worth about 3,000. Some of the better pieces are a Geissler mercury air pump, delicate balances, a *Societe Genevoise* spectrometer, a Michelson interferometer, fine Wheatstone bridges and resistance sets, galvanometers, magnetometer, voltmeters, ammeters, a motor-generator with normal output of twenty amperes under twenty-five volts, a storage battery with normal output of ten amperes under twenty-five volts, a fine X-ray output with a fifteen-inch spark induction coil from Queen & Co. There is also a good library, which contains some of the best standard works on Physics, and some of the best current scientific literature.

COURSE IN PHYSICS.

The course in Physics is offered to those who may find in its schedule of studies on page —, lines of work which pursued will enable them to enter successfully on some life profession. It is intended for those whose natural tastes and abilities lead them to pursue such studies, as well as for those who wish to teach Physics, or to do other work in Physical Science. In the present highly scientific age, the greatest developments are being made in Physical Science, and those who are best able to utilize physical resources, are those who are best able to recognize physical laws and accurately interpret physical phenomena.

The course is not strictly technical, but is broadly scientific. As seen in the schedule of studies, three years are devoted to Theoretical and

Experimental Physics, three and one-half to Mathematics and Astronomy, two to English, two to German, and one each to Chemistry, Physiology, Botany, and French. One year is also given to History and Political Economy, and one to Logic, Mental and Moral Philosophy. Four months are assigned to Zoölogy, and four to Geology.

Instruction.

FRESHMAN.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in Civil, Mechanical, and Mining Engineering.

TEXT-BOOK: Gage's Elements of Physics.

SOPHOMORE.

FIRST TERM—Text-book: Fifteen weeks, one hour daily. For students in Pedagogy, Agriculture, and in the Science courses.

TEXT-BOOK: Carhart and Chute's High-School Physics.

Laboratory: Fifteen weeks, one hour daily. Elementary experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Civil, Mechanical, and Mining Engineering.

TEXT-BOOK: Gage's Physical Experiments.

SECOND TERM—Laboratory: Ten weeks, one and one-half hours daily. (1) Experiments in Sound, Light, Electricity, and Magnetism. For students in Mining Engineering. (2) Experiments in the Mechanics of Solids, Liquids, and Gases, and in Heat. For students in Pedagogy, and in the Science courses.

TEXT-BOOK: Gage's Physical Experiments.

SECOND AND THIRD TERMS—Text-book: Twenty weeks, one hour daily. For students in the Arts courses.

TEXT-BOOK: Gage's Elements of Physics.

THIRD TERM—Laboratory: Ten weeks, one and one-half hours daily. Experiments in Sound, Light, Electricity and Magnetism. For students whose major study is Anatomy and Physiology, Pedagogy, Chemistry or Physics.

TEXT-BOOK: Gage's Physical Experiments.

JUNIOR.

FIRST TERM—Text-book and lectures: Fifteen weeks, one hour daily. Electricity and Magnetism. For students whose major study is Physics or Mining Engineering.

TEXT-BOOK: S. P. Thompson's Electricity and Magnetism.

SECOND TERM—Text-book and lectures: Ten weeks, one hour daily.
Heat.*

TEXT-BOOK: Cummin's Heat.

SECOND AND THIRD TERMS—Laboratory: Twenty weeks, one and one-half hours daily. Physical Measurements in Mechanics, Sound and Heat.*

TEXT-BOOK: Sabine's Physical Measurements.

THIRD TERM—Text-book and lectures: Ten weeks, one hour daily.
Light.*

TEXT-BOOK: Glazebrook's Light.

SENIOR.

FIRST TERM—Laboratory: Fifteen weeks, one and one-half hours daily.
Physical Measurements in Light, Electricity and Magnetism.*

TEXT-BOOK: Sabine's Physical Measurements.

SECOND AND THIRD TERMS—Thesis.*

*For students whose major study is Physics.

XVII. DEPARTMENT OF ENTOMOLOGY.

PROFESSOR GARMAN.

Of the Experiment Station.

In the Agricultural Course and in the Scientific Courses, in which Botany and Zoölogy are major studies, instruction in Entomology begins with the second term of the Senior year, students in these courses meeting the first hours of Tuesdays and Thursdays.

Occasional inquiries for Entomologists to fill positions in other institutions have lately been received at the College, and have suggested the desirability of a special course of study in Entomology that will fit those who pursue it for the work required in Agricultural Colleges and other institutions. The Scientific Course with Entomology as major study is intended to meet this want. It is estimated by our best entomologists and statisticians that we lose annually in this country from the depredations of injurious insects not less than \$100,000,000. If this be so, it is highly important that a knowledge of insects and their habits should be disseminated among the people, and it is especially important in Kentucky, where the leading industry is agriculture. It has been urged that a reduction of a crop to the extent of one-fourth or one-half of its value by insects should be regarded as a tax of twenty-five or fifty per cent. on its value. Such a tax is collected year after year, often without any attempt at resistance. It is the purpose of the Entomological work at the College to place in the hands of the students who expect to make farming their occupation such means of defense against loss as are known to those who have given the matter study. The Depart-

ment is especially well provided for in this direction, having the benefit of the work done at the Experimental Station and having access to the collections, apparatus, and library accumulated for Station work. The collection now contains examples of most of the injurious insects which are found in the United States, and is constantly being enlarged. The Station is well supplied with breeding cages for use in studying the habits and life-histories of insects, so that students who wish to do so have an opportunity to observe for themselves the various stages presented by a developing insect, and may see it in many cases actually engaged in its destructive work. An insectarium, recently added to our facilities, gives us increased opportunity in this field of investigation.

XVIII. DEPARTMENT OF MINING ENGINEERING.

PROFESSOR NORWOOD.

State Inspector of Mines and State Geologist.

The establishment of this School was authorized by an Act of the General Assembly, session of 1898. The course is laid out with the design of affording the student a thoroughly good foundation for professional work in Mining, Metallurgy, Assaying and Geology, and of so preparing him that he may readily and quickly assimilate that knowledge of the details of practice which may be gained only through experience. The effort is made to acquaint the student not only with the methods of mining and mine management in particular, but to give him such instruction in mechanical and civil engineering as may satisfy the needs of the modern mining engineer. The schedule of studies for the first two years, while distinctive in some minor respects, upon the whole is closely similar to those followed during the second years in the Schools of Mechanical Engineering and of Civil Engineering. Actual differentiation occurs at the entrance of the Junior year.

The course in mining is made as "practical" as the limitations of college instruction permit. With this in view, the equipment project for the Mining Laboratory includes the installation of such an ore dressing and coal washing plant as will permit work to be conducted along practical lines. It is intended that the Laboratory shall not only serve the purpose of instruction, but that it shall prove helpful, as a testing laboratory, to those engaged in mining operations in the coal, lead, zinc and spar districts of the State. As part of the equipment, therefore, a standard, full-sized Wilfley concentrating table has been installed. A Hallett Hand Jig has also been added; and a standard three-compartment Hartz Jig has been promised by a friend of the College. Through the generosity of Mr. John B. Atkinson, President of the St. Bernard Mining Company, Earlington, Ky., the laboratory is provided with a complete ventilating fan and fanhouse, a Campbell coal-washer, and a complete model of the St. Bernard Mining Company's large coal-washing plant. The fan has been so installed that

various problems relating to mine ventilation may be readily studied. The machines are operated by electric motor.

In Chemistry three terms are required. In the Sophomore year the course consists of lectures and recitations on the non-metals and their compounds, and the simpler laws of chemical change. In the Junior year, the first term is devoted to the study of the metals and their more important compounds, and to qualitative analysis. Laboratory work in quantitative analysis is taken up in the third term.

In Metallurgy two terms of work are required. The first term's work is the same as that required in the Course of Mechanical Engineering and of Civil Engineering. Huntington and Macmillan's text-book is used as a guide, and nine or ten metals, including iron, copper, zinc, tin, lead, nickel, cobalt, silver, and gold are studied. The work of the second term, which occurs in the Junior year, consists of practical work in the Metallurgical Laboratory, and will include assaying, together with the more comprehensive study of certain processes for the extraction of silver and gold, such as the amalgamation, chlorination and cyanide processes.

The instruction in the special theme of Mining (including both coal and metal), which begins with the Junior year, is laid out along a continuous line, each subject being introductory to that which follows, and is given by lectures, supplemented by text-books and special reading. The Department is equipped with an excellent electric light stereopticon, and a reflectoscope, with a large number of special slides for illustrating lectures, and in addition thereto many charts and "blue prints," illustrating mining methods and mining machinery, have been procured. A general statement of the subjects discussed under the head of Mining is given under the appropriate years.

The State College is exceptionally well situated with reference to the practical study of both coal and metal mining (including lead, zinc, and iron), and for the study of metallurgical practice in certain lines, there being within the State numerous coal and metal mines, and several iron and steel metallurgical establishments, within easy reach of Lexington. Practical work in concentrating lead ores may be studied at the Gratz and the Kissinger mines, in near-by counties. At the Gratz mine the plant includes crushers, jigs, a Huntington mill, and Woodbury concentrators. At the Kissinger mine the plant includes crusher, rolls, Huntington mill, Woodbury concentrators, and a smelter. The latter mine may be reached by trolley line and a short drive. Elaborate lead and zinc concentrating plants may be studied in the western part of the State. Coal-washing and coking may be studied at Ashland, where a Robinson washer is used, and at Earlington, where a Campbell plant is in operation. The copper mines of Tennessee, the iron mines of Virginia, Alabama and Tennessee, and the gold mining regions of Alabama and Georgia, with their accompanying metallurgical plants, may be reached within twenty-four hours or less of travel.

COURSE OF STUDY.

The schedule on a succeeding page exhibits the studies that lead to the degree of B. E. M.

The courses are as follows:

FRESHMAN YEAR.

FIRST TERM—English, Plane Trigonometry, Woodwork (Tools and Machinery), Drawing (Lettering, etc.), Shop Work (Bench and Lathe).

SECOND TERM—English, Solid Geometry, Physics, Free-hand Drawing, Mechanical Drawing.

THIRD TERM—English, Higher Algebra, Physics, Mechanical Drawing.

SOPHOMORE YEAR.

FIRST TERM—Analytical Geometry, Chemistry, Physical Laboratory, Geology, Iron and Steel Forging, Mechanical Drawing.

SECOND TERM—Analytical Geometry, Surveying, Metallurgy, Descriptive Geometry, Physical Laboratory, Geometric and Descriptive Geometric Problems.

THIRD TERM—Analytical Geometry, Calculus, Descriptive Geometry, Elementary Design, Surveying and Mapping.

JUNIOR YEAR.

Electrical Engineering, first term; Assistant Professor Wilson.

Calculus concluded, first and second terms; Professor White.

Strength of Materials, first term; Professor Faig.

Chemistry of Metals, first term; Professor Kastle.

Surveying and Mapping, first term; Professor Brooks.

Metallurgy and Assaying, second term; Professor Kastle.

Analytical Mechanics, second and third terms; Professor Faig.

Electro-dynamic Machinery, second term; Assistant Professor Wilson.

Mineralogy, Blow-piping, third term; Professor Miller.

Quantitative Analysis, third term; Professor Kastle.

Electrical Appliances, third term; Assistant Professor Wilson.

MINING 1. INTRODUCTORY, EXCAVATING, QUARRYING.—(a) Objects and definitions; commercial importance; connection with auxiliary sciences; history; coal and metal mines compared; mineral rights, etc. (b) Excavation in soft ground and in rock; tools and methods; steam excavators and dredges; by water, etc. (c) Explosives and blasting; kinds and effects of explosives; theory and practice of blasting; placing, charging, and firing holes under various conditions; precautions in blasting; substitutes for explosives. (d) Quarrying; plants and methods for various sorts of rock; underground quarries. *Eight weeks.*

MINING 2. BORING, SHAFT-SINKING, SHAFT-BORING.—(a) Boring; methods with auger, with rods, and with rope; rotary boring, boring tools; casing; recovering lost tools; drive piping. (b) Shaft-sinking; general principles. Methods in soft-ground and in rock. Hoisting, ventilating, and draining during sinking. Timbering, walling, tubbing, and linings for special cases. Sinking linings in watery ground and in quicksand. (c) Shaft-boring; general observations. Various methods described and compared. *Four weeks.*

MINING 3. PROSPECTING, DEVELOPMENT, METHODS OF WORKING.—(a) Mineral deposits; geological considerations. Relations of ore deposits to country rock; influence upon topography; connection between topographic forms due to geological structure and the existence of veins. General broad classifi-

cation of mineral deposits, lodes, veins, beds and placers; regular and irregular. Elements defining the nature and mode of occurrence of a deposit. Effect of variability and disturbances of stratified and crystalline rocks. Irregularities and disturbances of beds and veins. Solution of problems. (b) Prospecting: Systematic methods. Value of geology. Tracing outcrops; hillside and stream float; old and existing works; traditions; trenching and flooding; bore-holes, adit, levels, pits, cross-cuts. Tracing lodes; effects of cross-courses as to heaves and contents; panning. Dipping needle. (c) Exploration and Development: Preliminary questions as to commercial feasibility of working particular deposits. Choice of exploratory methods—shaft, adit, slope. Location of openings with reference to development. Laying out the workings, and order of exploitation. Driving tunnels, drifts, gangways, slopes, levels, cross-cuts. Advancing by single breast and by benches. Maintaining alignment—"sights." Accidents. Upraises—vertical and inclined. Winzes—methods of sinking and raising. (d) Methods of Working and of Supporting Excavation: General rules as to choice of mode of working a way, etc. Breaking ground (1) in coal mining, and (2) in metal mining. Support of excavations (1) by pillars of mineral, (2) by timbering, (3) by caving and filling. Methods of working applicable to deposits according to their origin, thickness, inclination and character. Coal, Vein, and Mass mining. Open cuts and stream workings. Hydraulic mining. Dredging. *Seventeen weeks.*

MINING 6. MINE SURVEYING.—General principles of underground surveying. Carrying meridian into mine, etc.; locating lines of work; construction of mine maps and sections; plumbing shafts, surveying bore-holes, etc. *Three weeks.*

SENIOR YEAR.

History and Political Economy, President Patterson.

Hydraulics, first term; Professor Brooks.

Steam Engine, Compressed Air, first term; Professor Anderson.

Economic Geology, second term; Professor Miller.

Alternating Currents and Power Plants, second term; Assistant Professor Wilson.

Mine Plant Design. (Drawing.)

Thesis work.

MINING 4. ORE AND COAL DRESSING, MILLING, COAL-WASHING.—General principles and theories. Picking, crushing; theory of mineral separations; sizing, classification, jigging, concentration and concentrators. Coal-washing. Gold and silver milling; stamp and other mills. Amalgamation: Theory and practice; care of mill plates; losses of mercury, etc. Pan amalgamation. "Patent" substitutes for plate amalgamation. Pan assays for free-milling ores, etc. *Five weeks; afternoons.*

MINING 5. ORE DRESSING LABORATORY.

MINING 6. MINE SURVEYING.—Practice, map construction. *Afternoons, ten weeks; Saturdays, fourteen weeks.*

MINING 7. EXTRACTION, VENTILATION, ETC.—Extraction and removal of material: Mine and surface haulage roads; rope and other means of haul-

age. Hoisting. Drainage: Controlling and removing water; dams; drainage levels, air lift; Ventilation: Theoretical considerations; mine gases; methods of ventilation; distribution of air supply. Illumination. Descent and ascent. Accidents: Causes; places; explosions; safeguards; rescue and relief. *Seventeen weeks.*

MINING 8. MINE PLANT.—Machinery and appliances for mining, hoisting, draining, ventilating, hauling, screening, loading, storing, etc. *Ten weeks.*

MINING 9. EXAMINATION AND VALUATION OF MINES, ETC.—Methods and precautions in examination and valuation. "Salting," concealing exhausted workings, etc. Relation of capital invested to actual dividends. Mine management. Cost sheets. *Three weeks.*

MINING 10. MINE VISITATION.—Opportunity for visiting mines under the guidance of the Dean, or of the Assistant Inspector of Mines, will be given at the close of the term.

The larger part of the third term is devoted to thesis work, subjects for which are assigned by the Dean.

Degrees.

The State College confers the degrees of—

Bachelor of Science (B. S.),
 Bachelor of Arts (A. B.),
 Bachelor of Agriculture (B. Agr.),
 Bachelor of Civil Engineering (B. C. E.),
 Bachelor of Mechanical Engineering (B. M. E.),
 Bachelor of Mining Engineering (B. E. M.),
 Bachelor of Pedagogy (B. Ped),
 Master of Science (M. S.),
 Master of Arts (A. M.),
 Master of Agriculture (M. Agr.),
 Master of Civil Engineering (C. E.),
 Master of Mechanical Engineering (M. E.),
 Master of Mining Engineering (E. M.).

CONDITIONS OF GRADUATION.

To attain the Bachelor's degree, the applicant must have been a student of the College at least one session, and he must have passed the examinations on all the courses of study leading to the desired degree.

To attain the Master's degree, the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and, finally, he must, at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.



MECHANICAL HALL.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

A student who completes a part of any course in a satisfactory manner may, in attestation of the fact, receive a Certificate of Proficiency.

Courses Grouped for Degrees.

I. COURSES FOR THE DEGREE OF B. S.

History, Political Economy, and Metaphysics.....	President Patterson.
Botany.....	Professor Mathews.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Chemistry.....	Professor Kastle.
Mathematics and Astronomy.....	Professor White, Dean.
The French and German Languages.....	Professor Wernicke.
Anatomy and Physiology.....	Professor Pryor.
Geology and Zoology.....	Professor Miller.
Physics.....	Professor Pence.
Drawing.....	Professor Muncy.

For the degree of M. S., Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minor studies will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English, History, Political Economy, Metaphysics, French, and German.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, CHEMISTRY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Botany (Entr.)
SOPHOMORE.	1	Anal. Geometry.	German.	Physics.	Physiology.	Drill.	Botany.
	2	Anal. Geometry.	German.	Botany.	Chemistry.	Drill.	Physics.
	3	Anal. Geometry.	German.	Calculus.	Chemistry.	Drill.	Physics.
JUNIOR.	1	Theor. Chemistry.	English.	Calculus.	French.	Drill.	Chemistry.
	2	Theor. Chemistry.	English.	Calculus.	French.	Drill.	Chemistry.
	3	Theor. Chemistry.	English.	Theor. Chemistry.	French.	Drill.	Quant. Analysis.
SENIOR.	1	Zoology.	History.	Logic.	Chem. Reading.	Drill.	Organ. Chemistry.
	2	Quant. Analysis.	History.	Metaphysics.	Econ. Geology.	Drill.	Chem. Research.
	3	Quant. Analysis.	Polit. Economy.	Mor. Philos.		Drill.	Chem. Research. Thesis.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ZOÖLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Anal. Geometry.	German.	Physics.	Physiology.	Drill.	Botany.
	2	Anal. Geometry.	German.	Botany.	Chemistry.	Drill.	Physics (Lab.)
	3	Anal. Geometry.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Zoology.	Osteology.		French.	Drill.	Chemistry (Lab.)
	2	Paleontology.	English.	Adv. Psychology.	French.	Drill.	Zoology (Lab.)
	3	Mineralogy.	English.		French.	Drill.	Embryology.
SENIOR.	1	Entomology.	History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Geology.
	2	Entomology.	History.	Metaphysics.		Drill.	Thesis.
	3	Entomology.	Polit. Economy.	Mor. Philos.	Astronomy.	Drill.	Thesis.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, GEOLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Anal. Geometry.	German.	Physics.	Physiology.	Drill.	Botany.
	2	Anal. Geometry.	German.	Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Anal. Geometry.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Zoology.	Osteology.		French.	Drill.	Lab. Chemistry.
	2	Paleontology.	Surveying.	Mech. Drawing.	French.	Drill.	
	3	Mineralogy.		Mech. Drawing.	French.	Drill.	Surveying.
SENIOR.	1		History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Gen. Geology.
	2		History.	Metaphysics.	Geology.	Drill.	Thesis.
	3		Polit. Economy.	Mor. Philos.	Astronomy.	Drill.	Thesis.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, BOTANY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1.	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geometry	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Anal. Geometry.	German.	Physics.	English.	Drill.	Gen. Botany.
	2	Anal. Geometry.	German.	Gen. Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Anal. Geometry.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Zoölogy.	Plant. Histology.	Econom. Botany.	French.	Drill.	Lab. Chemistry.
	2	Paleontology.		Econom. Botany	French.	Drill.	Lab. Zoölogy.
	3	Mineralogy.	Plant Physiology.	Econom. Botany.	French.	Drill.	Lab. Zoölogy.
SENIOR.	1		History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Geology.
	2	Entomology.	History.	Metaphysics.	Thesis.	Drill.	Thesis.
	3	Entomology.	Polit. Economy.	Mor. Philos.	Astronomy.	Drill.	Thesis.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, PHYSICS.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Analyt. Geom.	German.	Physics.	Physiology.	Drill.	Gen. Botany.
	2	Analyt. Geom.	German.	Botany.	Chemistry.	Drill.	Physics.
	3	Analyt. Geom.	German.	Calculus.	Chemistry.	Drill.	Physics.
JUNIOR.	1	Electricity. Magnetism.	English.	Calculus.	French.	Drill.	Chemistry.
	2	Heat.	English.	Calculus.	French.	Drill.	Physics.
	3	Light.	English.		French.	Drill.	Physics.
SENIOR.	1	Zoölogy.	History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Physics.
	2		History.	Metaphysics.	Geology.	Drill.	Thesis.
	3		Polit. Econ.	Moral. Philos.	Astronomy.	Drill.	Thesis.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ENTOMOLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geometry.	German.	Elm. Entomology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Elm. Entomology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Anal. Geometry.	German.	Physics.	Physiology.	Drill.	Gen. Botany.
	2	Anal. Geometry.	German.	Gen. Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Anal. Geometry.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Zoölogy.	Adv. Entomology.	Adv. Entomology.	French.	Drill.	Lab. Chemistry.
	2	Paleontology.	Adv. Entomology.	Adv. Entomology.	French.	Drill.	Lab. Chemistry.
	3	Mineralogy.	Syst. Entomology.	Syst. Entomology.	French.	Drill.	Lab. Chemistry.
SENIOR.	1	Econ. Entomology.	History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Geology.
	2	Econ. Entomology.	History.	Metaphysics.	Thesis.	Drill.	Thesis.
	3	Econ. Entomology.	Polit. Economy.	Moral Philosophy.	Astronomy.	Drill.	Thesis. Photog.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ANATOMY AND PHYSIOLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Analyt. Geom.	German.	Physics.	Physiology.	Drill.	Gen. Botany.
	2	Analyt. Geom.	German.	Gen. Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Analyt. Geom.	German.	Syst. Botany.	Chemistry.	Drill.	Lab. Physics.
JUNIOR.	1	Zoology.	Osteology Comp.	Osteology Human.	French.	Drill.	Lab. Chem.
	2	Organic Chemistry.		Osteology Human.	French.	Drill.	Lab. Zoology.
	3	Physical Chemistry.		Osteology Human.	French.	Drill.	Physiolog. Chem.
SENIOR.	1	French.	History.	Logic.	Geology.	Drill.	Lab. Physiol.
	2	Entomology.	History.	Metaphysics.	Physiology. Thesis.	Drill.	Thesis.
	3	Entomology.	Polit. Econ.	Moral. Philos.	Physiology. Thesis.	Drill.	Embryology.

II. COURSES FOR THE DEGREE OF A. B.

History, Political Economy, and Metaphysics.....	President Patterson.
Botany	Professor Mathews.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Chemistry	Professor Kastle.
Mathematics and Astronomy.....	Professor White.
The French and German Languages.....	Professor Wernicke.
The Greek and Latin Languages.....	Professor Neville, Dean.
	Ass't Professor Jones.
Physiology	Professor Pryor.
Geology and Zoölogy.....	Professor Miller.
Physics	Professor Pence.

For the Degree of A. M., Greek, Latin, English, History, Mental Science, French, German, or Gothic may be selected as major study; and minors will be assigned from Greek, Latin, English, Mathematics, History, Metaphysics, Political Economy, French and German.

SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR, GREEK AND LATIN.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	Greek. German.	Latin.	Drill.	
	2	English.	Solid Geometry,	Greek. German.	Latin.	Drill.	
	3	English.	Algebra.	Greek. German.	Latin.	Drill.	
SOPHOMORE.	1	Latin.	Greek. German.	Physiology.	English.	Drill.	
	2	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	
	3	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	
JUNIOR.	1	Anal. Geometry.	English.	Greek. Latin.	French.	Drill.	
	2	Anal. Geometry.	English.	Greek. Latin.	French.	Drill.	
	3	Anal. Geometry.	English.	Greek. Latin.	French.	Drill.	Botany.
SENIOR.	1	Latin. French.	History.	Logic.	Geology.	Drill.	Geology.
	2	Latin. French.	History.	Metaphysics.	Spher. Trigon. Astronomy.	Drill.	Zoölogy.
	3	Latin. French.	Polit. Economy.	Moral Philosophy.	Astronomy.	Drill.	

SCHEDULE OF STUDIES FOR THE DEGREE OF A. B. (MAJOR, ENGLISH.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	<i>English.</i>	Trigonometry.	Greek. German.	Latin.	Drill.	
	2	<i>English.</i>	Solid Geometry.	Greek. German.	Latin.	Drill.	
	3	<i>English.</i>	Algebra.	Greek. German.	Latin.	Drill.	
SOPHOMORE.	1	Latin.	Greek. German.	Physiology.	<i>English.</i>	Drill.	
	2	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	
	3	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	Botany.
JUNIOR.	1	Anal. Geometry.	<i>English.</i>	Greek. Latin.	French.	Drill.	<i>Anglo-Saxon.</i>
	2	Anal. Geometry.	<i>English.</i>	Greek. Latin.	French.	Drill.	Zoölogy.
	3	Anal. Geometry.	<i>English.</i>	Greek. Latin.	French.	Drill.	<i>Anglo-Saxon.</i>
SENIOR.	1	Sanskrit or Hebrew. French.	History.	Logic.	Geology.	Drill.	<i>Anglo-Saxon.</i>
	2	Sanskrit or Hebrew. French.	History.	Metaphysics.	<i>Comp. Philol.</i>	Drill.	<i>Anglo-Saxon.</i>
	3	Sanskrit or Hebrew. French.	Polit. Economy.	Moral Philosophy.	<i>Comp. Philol.</i>	Drill.	<i>Thesis.</i>

III. COURSES FOR THE DEGREE OF B. PED.

History, Political Economy, and Metaphysics.....	President Patterson.
Botany and Horticulture.....	Professor Mathews.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Chemistry	Professor Kastle.
Mathematics and Astronomy.....	Professor White.
Latin Language.....	Professor Neville.
German	Professor Wernicke.
Pedagogy	Professor Roark, Dean. Ass't Professor White.
Anatomy and Physiology.....	Professor Pryor.
Geology and Zoölogy.....	Professor Miller.
Physics	Professor Pence.

In case the student is prepared, on entering, to read Cicero, he must take German, First Year, third hour, and Second Year, second hour. Otherwise he must take Latin the First Year, and English the Second Year.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. PED.

YEAR	TERM	FIRST HOUR	SECOND HOUR	THIRD HOUR	FOURTH HOUR	FIFTH HOUR	AFTERNOON
FRESHMAN.	1	English.	Trigonometry.	German or Latin.		Drill.	Drawing.
	2	English.	Solid Geometry.	German or Latin.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German or Latin.	Physiology.	Drill.	Gen. Botany.
SOPHOMORE.	1	Analyt. Geom.	German or English.	Physics.	English.	Drill.	Gen. Botany.
	2	Analyt. Geom.	German or English.	Gen. Botany.	Chemistry.	Drill.	Physics.
	3	Analyt. Geom.	German or English.	Gen. Pedagogy.	Chemistry.	Drill.	Physics.
JUNIOR.	1	Zoology.	Educat. Psychol.	Logic.	Cicero.	Drill.	Chemistry.
	2	Palaeontology.	City School Problems.	Adv. Psychology.	Livy.	Drill.	
	3	Mineralogy.	Educat. Economy.		Livy.	Drill.	Professional Reading.
SENIOR.	1	Virgil.	History.	Educational Method.	Astronomy.	Drill.	Gen. Geol.
	2	Virgil.	History.	Metaphysics.	Hist. Educat.	Drill.	Obs. Work in Pedagogy.
	3	Cicero. Terence.	Polit. Economy.	Mor. Philosophy.	Astronomy.	Drill.	Thesis.

IV. COURSES FOR THE DEGREE OF B. M. E.

History and Political Economy.....	President Patterson.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Chemistry	Professor Kastle.
Mathematics	Professor White.
	Ass't Professor Johnson.
Mechanical Engineering.....	Professor Anderson, Dean.
Machine Design.....	Professor Faig.
Electrical Engineering.....	Ass't Professor Wilson.
Physics	Professor Pence.
Shopwork and Drawing.....	Instructor Nollau.
Experimental Engineering.....	Professor Anderson.
Surveying, Graphic Statics, and Hydraulics.....	Professor Brooks.

For the Degree of M. E., Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English, and Modern Languages.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

YEAR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.	SATURDAY.
FRESHMAN.	English.	Trigonometry.	Model and Object Drawing.	Woodwork Mach. Design.	Drill.	Shop Woodwork, Bench, Lathe.	Shop Woodwork, Bench, Lathe.
	English.	Solid Geom.	Physics.	Pattern-Making Foundry Drawing.	Drill.	Pattern Making Foundry.	Pattern Making.
	English.	Algebra.	Physics.	Mech. Drawing.	Drill.	Pattern Making Foundry.	Pattern Making.
SOPHOMORE.	Analyt. Geom.	Chemistry.	Elem. Design.	Phys. Laborat.	Drill.	Iron and Steel Forging.	Iron and Steel Forging.
	Analyt. Geom.	Surveying.	Metallurgy.	Deser. Geom.	Drill.	Machine Work.	Descrip. Geom. Drawing.
	Analyt. Geom.	Elem. Design.	Calculus.	Deser. Geom.	Drill.	Machine Work Surveying.	Descrip. Geom. Drawing.
JUNIOR.	Elementary Electricity.	Mechanics of Materials.	Calculus.	Kinematics Theory of Machine Design.	Drill.	Kinemat. Draw. Machine Design.	Kinemat. Draw.
	Electrical Design.	Analytical Mechanics.	Calculus.	Dynamo Elect. Machinery.	Drill.	Chemical Laboratory.	Mach. Design.
	Dynamo and Motor Design.	Graph. Statics.	Anal. Mechan.	Dyn. Elec. Mach. Theory of Machine Design.	Drill.	Machine Design Electric Lab.	Machine Design Electric Lab.
SENIOR.	Thermodynamics Hydraulics.	History.	Altern. Currents. Dyna. Mot. Des.	Valve Gears. Steam Boilers.	Library.	Valve Design. Electrical Lab.	Steam Lab.
	Altern. Currents. Power Plants.	History.	Steam Engine Design.	Dynamometers. Pumps.	Library.	Valve Design. Dyna. Mot. Des.	Steam Lab.
	Thesis.	Polit. Econ.	Photography.	Thesis.	Library.	Thesis.	Thesis.

V. COURSES FOR THE DEGREE OF B. C. E.

History and Political Economy.....	President Patterson.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Mathematics and Astronomy.....	Professor White.
Chemistry	Professor Kastle.
Civil Engineering.....	Professor Brooks, Dean.
Geology	Professor Miller.
Physics	Professor Pence.
Analytical Mechanics.....	Professor Faig.
Descriptive Geometry.....	Ass't Professor Johnson.
Mechanical Drawing.....	Instructor Freeman.

For the Degree of C. E., Railways, Structures, Water Power, Municipal or Mining Engineering, Sanitation; Topographical, Geodetic, or Architectural Engineering may be selected as major study; and minors will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French, and German.



INTERIOR GYMNASIUM.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

YEAR	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.	SATURDAY.
FRESHMAN.	English.	Trigonometry.	Drawing.	Mech. Drawing.	Drill.	Drawing.	Drawing.
	English.	Solid Geometry.	Physics.	Mech. Drawing.	Drill.	Drawing.	Drawing.
	English.	Algebra.	Physics.	Mech. Drawing.	Drill.	Drawing.	Drawing.
SOPHOMORE.	Analyt. Geom.	Chemistry.	Drawing.	Phys. Laborat.	Drill.	Drawing.	Drawing.
	Analyt. Geom.	Surveying.	Metallurgy.	Descr. Geom.	Drill.	Drawing.	Descr. Geom.
	Analyt. Geom.	Elem. Design.	Calculus.	Descr. Geom.	Drill.	Surveying, Mapping.	Surveying, Mapping.
JUNIOR.	Design, Roofs, Bridges.	Strength of Materials.	Calculus.	Elec. Dyn. Mach. Roofs, Bridges.	Drill.	Topog. Survey. Mapping.	Topog. Mapping.
	Roofs, Bridges.	Analytical Mechanics.	Calculus.	Stone Cutting.	Drill.	Chem. Lab.	Drawing.
	Roofs, Bridges.	Graph. Statics.	Anal. Mechan.	R. R. Survey.	Drill.	R. R. Survey.	R. R. Survey.
SENIOR.	Hydraulics, Geodesy.	History.	Bridge Design.	Astronomy, Construction, Geod. Survey.	Drill.	Geod. Survey. Cement Test.	Surveying.
	Roofs, Bridges, Power Plants.	History.	Sanitary Engineering.	Econom. Geol.	Drill.	Chem. Lab.	Design.
	Drawing.	Polit. Econ.	Design.	Astronomy.	Drill.	Thesis.	Thesis.

VI. COURSES FOR THE DEGREE OF B. AGR.

History, Political Economy, and Metaphysics....	President Patterson.
Agriculture, Horticulture, and Botany.....	Professor Mathews, Dean.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burt.
Chemistry	Professor Kastle.
Mathematics and Astronomy.....	Professor White.
The French and German Languages.....	Professor Wernicke.
Entomology	Professor Garman.
Anatomy and Physiology.....	Professor Pryor.
Geology and Zoölogy.....	Professor Miller.
Physics	Professor Pence.
Drawing	Professor Muncy.

For the Degree of M. Agr., Agricultural Chemistry, Horticulture, Entomology, or Economic Botany may be selected as major study; and minors will be assigned from Agricultural Chemistry, Horticulture, Entomology, Zoölogy, Geology, and Botany.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. AGR.

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Trigonometry.	German.		Drill.	Drawing.
	2	English.	Solid Geom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Entrance Botany.
SOPHOMORE.	1	Zoölogy.	German.	Physics.	English.	Drill.	Gen. Botany.
	2		German.	Gen. Botany.	Chemistry.	Drill.	Zoölogy.
	3	Mineralogy.	German.	Syst. Botany.	Chemistry.	Drill.	Zoölogy.
JUNIOR.	1		Plant Histology.	Econom. Botany.	French.	Drill.	Lab. Chemistry.
	2	Entomology.	Agriculture. Horticulture.	Fertiliz. Dairy.	French.	Drill.	Horticult. Dairy.
	3	Hortic. Entomol.	Plant Physiology.	Econom. Botany.	French.	Drill.	
SENIOR.	1		History.	Logic.	Thesis.	Drill.	Agricult. Chem.
	2		History.	Metaphysics.	Econ. Geology.	Drill.	Thesis.
	3		Polit. Econ.	Moral. Philos.	Astronomy.	Drill.	Thesis.

SCHEDULE OF STUDIES FOR THE TWO YEARS' COURSE IN AGRICULTURE.

YEAR	TERM	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FIRST YEAR.	1	English.	Trigonometry.		Physiology.	Drill.	Gen. Botany.
	2	English.	Solid Geom.	Gen. Botany.	Chemistry.	Drill.	Zoology.
	3	English.		System. Botany.	Chemistry.	Drill.	Zoology.
SECOND YEAR.	1	Zoology.	Plant Histology.	Econom. Botany.	English.	Drill.	Agricultural Chemistry.
	2	Entomology.	Agriculture Horticulture.	Fertilizers Dairy.	Economic Geology.	Drill.	Horticulture. Field Work Dairy.
	3	Horticulture. Entomology.	Plant Physiology.	Econom. Botany.	Astronomy.	Drill.	

VII. COURSES FOR THE DEGREE OF B. E. M.

History and Political Economy.....	President Patterson.
Mining Engineering, Ore Dressing.....	Professor Norwood, Dean.
The English Language and Literature.....	Professor Mackenzie.
Military Science.....	Lieutenant Burtt.
Mathematics	Professor White.
Surveying and Hydraulics.....	Professor Brooks.
Mechanical Engineering.....	Professor Anderson.
Geology and Mineralogy.....	Professor Miller.
Chemistry and Metallurgy.....	Professor Kastle.
Physics	Professor Pence.
Analytical Mechanics.....	Professor Faig.
Electrical Engineering.....	Ass't Professor Wilson.
Descriptive Geometry.....	Ass't Professor Johnson.
Shopwork and Drawing.....	Instructor Nollau.
	Assistant Freeman.

For the Degree of E. M., Metallurgy, Ore Dressing, Milling, Coal Mining, Mine Engineering, Mine Plant, Mine Development, or Deep Mining may be selected as major study; and minor studies may be assigned from Civil Engineering, Mechanical Engineering, Electrical Engineering, Geology, Chemistry, Physics, Mathematics, Political Economy, English, French, and German.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. E. M.

YEAR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR	AFTERNOON.	SATURDAY.
FRESHMAN.	English.	Plane Trigon.	Drawing.	Woodwork, Mech. Drawing.	Drill.	Shop Woodwork, Bench Lathe.	Shop Woodwork, Bench, Lathe.
	English.	Solid Geometry.	Physics.	Mech. Drawing.	Drill.	Free-hand Drawing.	Drawing.
	English.	Algebra.	Physics.	Mech. Drawing.	Drill.	Drawing.	Drawing.
SOPHOMORE.	Analyt. Geom.	Chemistry.	Phys. Laboratory.	Geology.	Drill.	Mech. Drawing.	Iron and Steel Forging.
	Analyt. Geom.	Surveying.	Metallurgy.	Descr. Geom.	Drill.	Phys. Laboratory.	Descr. Geom. Drawing.
	Analyt. Geom.	Elem. Design.	Calculus.	Descr. Geom.	Drill.	Surveying. Mapping.	Surveying. Mapping.
JUNIOR.	Electricity. Magnetism.	Mechanics of Materials.	Calculus.	Dyn. Elec. Mach. Mining 1, 2.	Drill.	Chemistry of Metals.	Surveying. Mapping.
	Mining 3.	Analytic Mechanics.	Calculus.	Dyn. Electric. Machinery.	Drill.	Metallurgy. Assaying.	Assaying.
	Mineralogy.	Mining 3. Mining 6.	Analytic Mechanics.	Electrical Appliances.	Drill.	Quant. Analysis.	R. R. Survey.
SENIOR.	Hydraulics. Steam Engine. Compressed Air. Altern. Currents. Power Plants.	History.	Mining 7.	Steam Boilers.	Drill.	Mining 4. Mining 5.	Mine Survey 6.
		History.	Mining 7. Mining 8.	Econ. Geology.	Drill.	Mine Maps 6.	Mine Plant Design.
	Mine Plant Design.	Polit. Econ.	Mining 8. Mining 9. Mining 10.	Design. Thesis.	Drill.	Design. Thesis.	Thesis.

The Normal School.

MILFORD WHITE,
PRINCIPAL.

EDGAR H. CRAWFORD,
JOSEPH WILLIAM PRYOR,
THEODORE TOLMAN JONES,
JAMES FRANKLIN SANDEFUR,
WILLIAM S. WEBB,
ASSISTANTS.

JOSEPH WARREN,
——— NOE.

The Normal School.

The Normal School prepares teachers for service in the rural schools and elementary graded schools of the State. It comprises three courses, corresponding to the three classes of certificates named in the School Law, viz.: State Diploma, State Certificate, and County Certificate.

The State Diploma Course is made up of all the common school subjects and, in addition, Higher Arithmetic, Algebra, Plane Geometry, Elementary Physics, Elementary Latin, and Psychology. The State Diploma is a life certificate.

The State Certificate Course comprises, besides the common school branches, the advanced subjects of Higher Arithmetic, Algebra, English and American Literature, and Psychology. The State Certificate is valid for eight years, in all parts of the State, and is renewable for another eight years.

The County Certificate Course is made up of the common school subjects in which applicants for a county certificate must be examined.

Other branches will, it is now expected, be provided for in 1905, and thereafter. These branches will be Penmanship, Freehand Drawing, Vocal Music, and Nature Study. Of these, only Penmanship is required in most schools of the State; but it will not be many years until the others also will be required. In fact, Drawing, Vocal Music, and Elementary Science are now demanded in not a few graded schools. The Normal School of the State College aims not only to prepare teachers to meet the bare requirements of the law, but to fit them also both to create and to satisfy a popular demand for the teaching of all the subjects of the best modern elementary curriculum.

Capable students in either of the lower courses may, with the consent of the Dean, take advanced branches in the State Diploma Courses.

General Pedagogy—Theory and Practice—constitutes a special feature of each course throughout each term of the year. This class is a purely professional one, in which all questions pertaining to the organization, management, and teaching of elementary schools are fully discussed. Participation in the work of this class is vital to the best success of the teacher.

Forensics, a thorough training in the practice of public speaking is a special advantage offered by the Normal School. The whole school is placed in sections sufficiently small to enable each student to get the benefit that comes from frequent practice in forensics. The work is in charge of the Dean.

City examinations are provided for in the several courses above named. Many city school boards in the State accept the State Certificate. In other cases, a course preparatory to a special examination can be made up out of the regular courses described in the preceding paragraphs.

County Superintendents and Examiners. Although the Normal School has not heretofore had proper facilities for especially fitting County Superintendents and County Examiners for their distinctive work, yet fifteen per cent. of the present County Superintendents in the State have been prepared here for their examination for eligibility, and for the more successful discharge of their official duties. Very many County Examiners have also had their preparation in the Normal School.

It is intended to offer in the session of 1905-6, and thereafter, special courses for those who desire to prepare for service as County Superintendents. These courses will comprise, in addition to the required academic studies, special instruction in Psychology, General Pedagogy, and in School Law.

TEXT-BOOKS: In the Professional Course the text-books are those used in the same branches in the other four years' courses of the College. In the work in Pedagogy the books used are Roark's Psychology in Education, Roark's Method in Education, White's and Baldwin's School Management, and Seeley's History of Education. In the County Certificate Course the books used are Dubb's Arithmetic, Peterman's Civil Government, Chittenden's Elements of English Composition, Natural Advanced Geography, Holbrook's Complete Grammar, Montgomery's History of the United States, Kinkead's History of Kentucky, Martin's Human Body (smaller edition), Roberts' Rules of Order, and Roark's General Outline of Pedagogy. In the State Diploma and State Certificate Courses, besides these books, Wentworth's Higher Algebra, Johnson's History of English and American Literature, and Blaisdell's First Steps with English and American Authors also are used.

APPOINTMENTS.

Each legislative district of the State is entitled to send to the Normal School every year four properly appointed students, of either sex. Appointments are made by the County Superintendents (see page 129, Section 14, 15 and 16, School Law of 1900) between the first day of July and the thirty-first day of December. Appointments should be certified to the President of the State College as soon as they are made. Appointees secure all the advantages indicated on page —. They do *not* receive mileage, unless they remain in school the *full collegiate year*.

Appointments to the Normal School are good for one year. Those who are ready to enter the Freshman Class of the full four years' Professional Course should see that their appointments are made for the *College* and not for the Normal School. Appointments made for that course as a college course are good for four years.

CALENDAR.

The First Term opens September 14, 1905.

The Second Term opens January 2, 1906.

The Third Term opens March 12, 1906.

Students should enter as early in the term as possible.

SCHEDULE FOR THE STATE DIPLOMA.

TERM	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.
1	Latin.	Pedagogy.	Physics.	Algebra.	Drill.
2	Literature.	Psychology.	Higher Arithmetic.	Plane Geometry.	Drill.
3	Literature.	Algebra.	Higher Arithmetic.	Plane Geometry.	Drill.

SCHEDULE FOR THE STATE CERTIFICATE.

TERM	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.
1	Literature.	Pedagogy.	Higher Arithmetic.	Algebra.	Drill.
2	Literature.	Psychology.	Higher Arithmetic.	Algebra.	Drill.

SCHEDULE FOR THE COUNTY CERTIFICATE.

TERM	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.
1	Grammar.	Arithmetic.	U. S. History. Physiology.	Geography.	Drill.
2	Grammar. Civics.	Arithmetic. Pedagogy.	Geography. Physiology.	Composition.	Drill.
3	Grammar. Composition.	Arithmetic. Geography.	Civics. Physiology. Pedagogy.	U. S. History.	Drill.

The Academy.

WALTER KENNEDY PATTERSON,
PRINCIPAL.

JOHN LEWIS LOGAN,
JOSEPH MORTON DAVIS,
VICTOR EMANUEL MUNCY,
ASSISTANTS.

Courses of Study.

I. SCIENTIFIC.

FIRST YEAR—Arithmetic, Wells' Academic; Algebra, Fisher and Schwatz's Higher, to Chapter XII; Political and Descriptive Geography, Butler's Complete; History of the United States, Eggleston; English Grammar, Patterson's Advanced.

SECOND YEAR—Algebra, Fisher and Schwatt's Higher, to Chapter XXV; Plane Geometry, Beman and Smith; Physical Geography, Tarr; General History, Anderson; Rhetoric, Genung; Synonyms, Graham.

II. CLASSICAL.

FIRST YEAR—Latin Grammar, Smiley and Storke; Viri Romæ or Scudder's Gradatim or D'Ooge's Easy Latin; White's Beginner's Greek Book; Arithmetic, Wells' Academic; Algebra, Fisher and Schwatt's Higher, to Chapter XII; English Grammar, Patterson's Advanced.

SECOND YEAR—Latin Grammar continued; Nepos, Cæsar; Daniell's New Latin Composition; Greek Grammar continued; Jacob's Greek Reader; Xenophon's Anabasis; Algebra, Fisher and Schwatt's Higher, to Chapter XXV; Plane Geometry, Beman and Smith; Rhetoric, Genung; Synonyms, Graham.

FIRST YEAR—Coleridge's *Ancient Mariner*, in class, and Scott's *Ivanhoe*, parallel.

SECOND YEAR—Shakespeare's *Merchant of Venice*, Macaulay's Essay on Addison, Addison's *Sir Roger de Coverley Papers*, Tennyson's *Princess*, Milton's *Lycidas*, in class; George Eliot's *Silas Marner* and Goldsmith's *Vicar of Wakefield*, parallel.

SCHEDULE OF STUDIES IN THE ACADEMY.

SCIENTIFIC.						
YEAR	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FIRST YEAR.	English Grammar.	Geography.	Arithmetic.	Algebra.	Drill, Gymnastics.	
	English Grammar.	History.	Arithmetic.	Algebra.	Drill, Gymnastics.	
SECOND YEAR.	Rhetoric.	Algebra.	Physical Geography.	Geometry.	Drill, Gymnastics.	
	Rhetoric, Synonyms.	Algebra.	History.	Geometry.	Drill, Gymnastics.	
CLASSICAL.						
FIRST YEAR.	English Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Drill, Gymnastics.	Greek Grammar.
	English Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Drill, Gymnastics.	Greek Grammar.
SECOND YEAR.	Rhetoric.	Algebra.	Viri Romæ, Nepos.	Geometry.	Drill, Gymnastics.	Greek Reader.
	Rhetoric, Synonyms.	Algebra.	Cæsar, Latin Composition.	Geometry.	Drill, Gymnastics.	Anabasis.

The Academy is under the immediate direction and management of the Principal and three Assistants.

The students are subject to the same rules and regulations as the students of the College. Their attendance at the College is required only during the hours of recitation and other prescribed College exercises, the preparation of their lessons being made elsewhere.

The courses of study in the Academy are provided for those who enter directly from the common schools, and are intended to supply the necessary training intermediate between the Freshman class of the College and the course of study prescribed by the State Board of Education for the common schools.

Every applicant, to be admitted to the Academy, is required to pass a satisfactory examination in Spelling, Reading, Writing, Geography, History of the United States, English Grammar, and Arithmetic.

County appointees must present Certificates of Appointment, made on actual examination held in pursuance of law by a County Board of Examiners, duly appointed for that purpose by the County Superintendent.

Applicants from the public schools of Lexington must present certificates from the School Board setting forth that they have completed the eighth-grade studies.

Other applicants must present certificates from their County Superintendent, or from the Principal of their High School, setting forth that they have completed the common school course prescribed by the State Board of Education.

Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes they propose to enter.

Students matriculating in the Academy will be required to pursue one of its prescribed courses of study, and will not be permitted to take any work outside of this course except on the recommendation of the Principal.

ENTRANCE EXAMINATIONS.

These will be held as follows:

Tuesday, September 12, 1905, on English Grammar, Rhetoric, and Greek Grammar; Wednesday, September 13, on Political and Descriptive Geography, U. S. History, Latin Grammar, and Second Year Algebra; Thursday, September 14, on Arithmetic, Physical Geography, General History, and Second Year Latin; Friday, September 15, on First Year Latin, Algebra, Geometry, and Second Year Greek.

Examinations to begin at 8 a. m. and close at 12 m.

For the benefit of those, other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following examination papers are submitted as a sample. It is not to be understood that these are the questions on which applicants will be examined, but that they indicate the minimum attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over.

I. ARITHMETIC.

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\frac{1}{4} \times \frac{10\frac{3}{4} - 4\frac{1}{12}}{6\frac{3}{16} \times 7\frac{2}{3}} \div \frac{3\frac{5}{11}}{1\frac{2}{5} + 9\frac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is $12^{\circ} 27' 14''$ east; the longitude of Chicago is $87^{\circ} 35'$ west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base boards?

If a train at the rate of $\frac{5}{13}$ of a mile per minute takes $3\frac{1}{4}$ hours to reach a station, how long will it take at the rate of $\frac{7}{15}$ of a mile per minute?

A and B can do a piece of work in $2\frac{1}{2}$ days, and A and C in $3\frac{1}{3}$ days, B and C in $4\frac{1}{4}$ days. Required the time in which all three working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron $3\frac{1}{8}$ feet long, 3 inches wide, $2\frac{3}{4}$ inches thick weighs 93 pounds, what will be the weight of a bar $3\frac{3}{8}$ feet long, 4 inches wide, and $2\frac{1}{2}$ inches thick?

II. ENGLISH GRAMMAR.

Name, define, and give examples of all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause; one containing an adverbial clause.

Analyze the following sentence, and parse all the words in full:

"The soldiers of the Tenth Legion, wearied by their long march and exhausted from want of food, were unable to resist the onset of the enemy."

III. GEOGRAPHY.

What are the circles of the earth?

What are the meridians?

Define latitude and longitude.

What two meridians bound the hemispheres?

Define the two principal forms of government.

Bound North America and describe its political divisions.

Why is the climate of Western Europe different from that of America in the same latitudes?

Describe the mountains, principal rivers, and lakes of Asia.

Describe the natural routes of commerce.

IV. HISTORY.

What section of the United States was first explored by the Spanish? French? English?

Give a concise description of the settlement of Plymouth, Jamestown, New York City, and name their distinctive characteristics.

Define Charter, Proprietary, and Royal government as applied to the colonies, and name the colonies that were under each of these forms of government.

Name the three principal causes of the Revolutionary War.

What was the main cause of the War of 1812?

What caused the Mexican War?

Give the leading political differences between the North and the South at the opening of the Civil War.

Name the three departments of the Government under the Constitution, and define the duties of each.

Associations.

THE UNION LITERARY SOCIETY.

This, the oldest of the literary associations connected with the State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the Gymnasium and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22d of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

THE PATTERSON LITERARY SOCIETY.

This Society, formed in 1887, and, at the suggestion of Governor Knott, named in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

THE PHILOSOPHIAN AND NEVILLE SOCIETIES.

These Societies, instituted, the former in 1882, the latter in 1905, by young women of the College, for literary improvement and social pleasure, offer, besides the usual weekly meetings, public entertainments consisting of declamations, essays, criticisms, and addresses.

THE ENGINEERING SOCIETY.

This body, composed of matriculates in either course of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.



LIBRARY (MECHANICAL AND ELECTRICAL ENGINEERING).

ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Football, the Baseball, and Track Athletic Societies. The officers of these three sub-organizations constitute the managing board of the Athletic Association. The control of athletics by the Faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

CHAUTAUQUA REPRESENTATIVE.

An oratorical contest, under the auspices of the Literary Societies, but open to every bona fide student of the College, is held on the last Tuesday afternoon before Commencement to select a representative to speak at the Lexington Chautauqua.

Alumni.**1869.**

Munson, William Benjamin, B. S.....Denison, Texas.

1870.

Munson, Thomas Volney, B. S., M. S., '83.....Denison, Texas.

1871.

Harding, Enoch, B. S.....Fort Worth, Texas.

1874.

Carswell, Robert Emmett, B. S.....Decatur, Texas.

Dean, John Allen, B. S.....Owensboro.

Hardin, Thomas Rollins, B. S., M. S., '76.....Ruston, La.

Smith, Edward Everett, B. S.....Chicago, Ill.

1875.

Brown, Edgar Thomas, B. S., M. S., '77.....Chicago, Ill.

1877.

Floete, Franklin, B. S.....St. Paul, Minn.

Ward, Ballard Preston, B. S.....Speedwell, Va.

1878.

- Cole, Moses Salvador, B. S.....Rivas, Nicaragua.
 *Mackie, Mahlon, B. S.....Mt. Sterling.

1879.

- Blakely, Charles Graham, B. S., M. S., '84.....Topeka, Kansas.
 Hays, Napoleon Bonaparte, B. S., M. S., '84.....Frankfort.
 Perry, Caleb Sykes, B. S.....Indianapolis, Ind.
 Wright, Henry Moses, B. S.....Alton Park, Tenn.

1880.

- *Crawford, James, B. S.....Lexie, Tennessee.
 Peter, Alfred Meredith, B. S.....Lexington.
 Weller, Nicholas John, B. S.....Pineville.
 Whatley, George Croghan, B. S.....Birmingham, Ala.

1881.

- Pence, Merry Lewis, B. S., M. S., '85.....Lexington.

1882.

- *Berry, George G., B. S.....Lexington.
 De Roode, Louis Kuinders, A. B., A. M., '86.....New York.
 Patterson, John Letcher, A. B., A. M., '86.....Louisville.
 Rogers, Edward Lee, A. B.....Lexington.
 Shackelford, John Armstrong, A. B., A. M., '86.....Tacoma, Wash.
 Stoll, John William, A. B.....Lexington.

1883.

- *King, William Elijah, B. S.....Nelson County.
 Taylor, James W., A. B.....New Castle.

1884.

- Eubanks, Burton Prendergast, B. S.....Dallas, Texas.
 Graves, Clarence Scott, B. S.....Lexington.
 *Jones, Henry Clay, B. S.....Monticello.
 Kastle, Joseph Hoeing, B. S.....Lexington.
 Ramsey, Russell Thomas, B. S.....Denver, Col.
 Riley, Otis Violette, B. S.....Pineville.

1885.

- De Roode, Rudolph John Julius, B. S., M. S., '87....Glens Falls, N. Y.
 Gess, George Thomas, B. S.....Lexington.
 Gordon, John Crittenden, B. S.....Eminence.
 Lambuth, William David, A. B.....Seattle, Wash.
 Scott, James Russell, B. S.....Lexington.
 *Thornbury, William Garland, B. S.....Brooklyn, N. Y.

*Deceased.

1886.

Morgan, Thomas Hunt, B. S., M. S., '88.....New York.
 *Prewitt, Robert Lee, A. B.....Memphis, Tenn.
 Prewitt, William C., A. B.....Fort Worth, Texas.

1887.

Hifner, Kearney Lee, B. S.....Lexington.
 Shackelford, Thomas Wheatley, A. B.....New York.

1888.

Bartlett, Frederick Vincent, B. S.....Lexington.
 Bryan, George Gist, B. S.....Norfolk, Va.
 Curtis, Henry Ernest, B. S., M. S., '92.....Lexington.
 Gunn, Belle Clement, B. S.....Springfield, Ohio.
 Payne, Robert Treat, B. S.....Athens.

1889.

Ellershaw, Edward, A. B., A. M., '92.....Bristol, Eng.
 Frazer, Hugh Miller, B. S.....Lexington.
 *Patterson, William Andrew, B. S.....Lexington.
 Prewitt, Annie Gist, B. S.....Lexington.
 Walker, Robert Bernie, B. S.....St. Louis, Mo.

1890.

Anderson, Richard Thomas, Jr., B. S.....Lexington.
 Baker, Annie Jane, B. S.....Lexington.
 Brock, Charles Robert, B. S.....Denver, Col.
 Forston, Keene Richards, B. S.....Nicholasville.
 Gunn, John Wesley, C. E.....Lexington.
 Hoeing, Charles, A. B.....Rochester, N. Y.
 Wilson, Margaret Agnes, B. S.....Deadwood, Col.
 Yates, James Anderson, B. S.....Ottawa, Kansas.

1891.

Berry, Henry Skillman, B. S.....Lexington.
 Clardy, U. L., B. S.....Goodwill, S. D.
 Muncy, Victor Emanuel, B. S.....Lexington.
 Wallis, William Russell, C. E.....Friar's Point, Miss.
 Warner, B. Callie, B. S.....Lexington.

1892.

Cox, Arthur Melville, A. B.....Cynthiana.
 Elkin, Felding Clay, B. S.....Lexington.
 Hunt, Irene Leonora, B. S.....Lexington.
 Maxey, John Gee, A. B.....Louisville.
 Page, William Seabury, C. E.....Danville, Wash.
 Pottinger, Samuel Lancaster, A. B.....Louisville.

*Reynolds, Frank Craig, C. E.....	Lexington.
Scovell, Frank Elmer, C. E.....	Chamois, Mo.
Shaw, Hiram, Jr., B. S.....	Chicago, Ill.
Shelby, Isaac Prather, C. E.....	Lexington.
Southgate, Butler Turpin, A. B.....	Lexington.

1893.

Adams, Katherine Innis, A. B.....	Albuquerque, N. Mex.
Bryan, John Irwin, B. S., B. M. E., '95.....	Boston, Mass.
Courtney, Edmund, B. Ped.....	Neave.
Gunn, Henry Martin, B. S.....	Mt. Sterling.
Hobdy, William Cott, B. S.....	Honolulu, H. I.
Johnson, James Richard, B. M. E.....	Lexington.
McFarlin, John William, B. S.....	Franklin.
Railey, Morton Sanders, C. E.....	Washington, D. C.
Roberts, Daniel Stillwell, B. Ped., A. M., '01.....	Louisville.
Smith, Denny Perryman, B. S.....	Cadiz.
Speyer, Rosa, B. S., M. S., 1900.....	Leipzig, Germany.
Ware, Cora E., B. Ped.....	Pineville, La.
White, Milford, C. E., M. S., 1900.....	Lexington.
Willis, Benjamin Grant, B. S.....	Lexington.

1894.

Aulick, Edwin Chesterfield, A. B.....	Louisville.
Bradshaw, George Dickie, B. Ped.....	Chicago, Ill.
Brand, Edward, A. B., A. M., '96.....	East Lake, Ala.
Curtis, Carlton Coleman, B. S.....	Babylon, N. Y.
Faig, John Theodore, M. E.....	Lexington.
Garred, Ulysses Anderson, B. M. E.....	Anaconda, Mont.
*Griffing, Emma Rosetta, B. S.....	Lexington.
Hays, James Morrison, A. B.....	Barbourville.
Hughes, Leonard Samuel, B. S.....	Manila, P. I.
Jones, Mattison Boyd, A. B.....	Los Angeles, Cal.
Keiser, Benjamin Christopher, B. S.....	St. Louis, Mo.
Kroesing, Lillie, B. S.....	Lexington.
Newton, Nathan Alexander, B. M. E., M. E., '99.....	Oil City, Pa.
Norman, Albert Clift, B. M. E.....	Savannah, Ga.
Oots, Nina Pearl, B. S.....	Richmond.
Shelby, Katherine, B. S.....	Lexington.
Sledd, Dora, B. Ped.....	Chicago, Ill.
Trigg, William Clay, C. E.....	Ullin, Ill.
Warner, Hattie Hocker, B. S.....	Honolulu, H. I.

1895.

Atkins, Mary Lyons, B. S.....	Lexington.
Barker, Lanis Spurgeon, B. S.....	Ocala, Fla.
Bush, Henry Skillman, B. S.....	Lexington.

*Deceased.

Didlake, Mary LeGrand, B. S., M. S.....	Lexington.
Downing, Joseph Milton, B. M. E.....	Jackson, Tenn.
Faulkner, John Vick, C. E.....	Simon, Ind. Ter.
Fitzhugh, Lucy Stuart, A. B., A. M., '96.....	Lexington.
Foster, Nettie Belle, B. S.....	Lexington.
King, Elizabeth Whittington, A. B., A. M., '96.....	Ft. Wayne, Ind.
Lewis, Thomas Stone, A. B.....	Lexington.
McConathy, James Asa, B. S.....	Kirklevington.
McCaughliffe, Mary Catherine, B. S.....	Lexington.
Murrill, Paul Ingold, B. S., M. S., '96.....	Woodbury, N. J.
Newman, Roberta, B. S.....	Lexington.
Reynolds, Nellie Anna, B. S., M. S., '96.....	Lexington.
Stoll, Richard Charles, A. B.....	Lexington.
Weaver, Rufus Lee, B. S.....	New York.
Willmott, John Webb, A. B.....	Wewoka, I. T.
Woods, John Joseph, A. B.....	Lexington.

1896.

Alford, Smith Edison, A. B.....	Ellwood, Pa.
Carnahan, James Williams, A. B.....	Toledo, O.
Case, Daniel Morris, B. M. E.....	Georgetown.
Davidson, Harry Adolph, C. E.....	Louisville.
Dean, Thomas Roland, A. B.....	S. McAlister, I. T.
Duck, Alice, B. S.....	Lexington.
Dunlap, John Jennings, A. B.....	Lancaster.
Kerrick, Felix, A. B., A. M., '01.....	Louisville.
Lyle, Joseph Irvin, B. M. E., M. E., 1902.....	New York.
McDowell, Edward Campbell, B. M. E.....	Jackson, Tenn.
Orman, Henry, B. M. E.....	Danville.
Trigg, John Henry, B. S.....	New Columbus.
Woods, John Wesley, A. B.....	Ashland.

1897.

Allen, William Raymond, A. B.....	Chetocah, I. T.
Anderson, Henry Clay, B. M. E.....	Ann Arbor, Mich.
*Atkins, Antoinette Thornton, B. S.....	Lexington.
Blessing, George Frederick, B. M. E., M. E., '04.....	Reno, Nev.
Bullock, Samuel Archibald, B. M. E., M. E., '04.....	St. Paul, Minn.
Cassidy, Elizabeth, B. S.....	Lexington.
Clarke, Mary Eva, B. S.....	Lexington.
Collier, William Henry, B. M. E.....	Jackson, Tenn.
DeBow, Samuel Carruthers, B. M. E.....	Jackson, Tenn.
Downing, George Crutcher, B. Ped., M. S., '98.....	Frankfort.
Duck, Berkley Wilson, B. M. E.....	Indianapolis, Ind.
Duncan, William Adolphus, B. M. E.....	Nashville, Tenn.
Frazer, Joseph Christie, B. S.....	Baltimore, Md.
Geary, John Thomas, B. S.....	U. S. Army.

*Deceased.

Gordon, Robert Lee, A. B., A. M., '98.....	St. Louis, Mo.
Gunn, Clara Brooke, B. S.....	Lexington.
*Haley, John Thomas, B. S.....	Fayette County.
Hendren, James Harry, B. S.....	Speedwell.
Hicks, Arthur Lee, A. B.....	Ashland.
Kelly, Thomas Conway, B. M. E.....	Milwaukee, Wis.
McHargue, Barbara Susan, B. S.....	London.
Morgan, George Matt, B. S.....	Cincinnati, Ohio.
Pope, Robert Lee, A. B.....	Williamsburg.
Scott, John, A. B.....	San Antonio, Texas.
Searcy, Lulu, B. Ped.....	Lexington.
Simrall, James Orlando Harrison, A. B.....	Lexington.
Warner, Logan Hocker, B. S.....	LaFollette, Tenn.
White, Martha Ripperdan, B. S., M. S., '02.....	Lexington.

1898.

Brock, George, A. B., M. S., '99.....	London.
Brock, Lafayette Richardson, B. S.....	Lexington.
Cahill, William James David, B. M. E.....	Lexington.
Campbell, Thomas Luther, A. B.....	Memphis, Tenn.
Carpenter, William Thomas, B. M. E.....	Vallejo, Cal.
Farley, Frank Preston, A. B.....	Flatlick.
Hammock, David William, B. S.....	Cane Creek.
Hamilton, Thomas Smith, B. M. E.....	Louisville.
Johnson, Jack Stubblefield, A. B.....	Muir.
King, Margaret Isadore, A. B.....	Lexington.
Loevenhart, Arthur Solomon, B. S., M. S., '99.....	Baltimore, Md.
Loevenhart, Edgar Charles, B. M. E.....	Chicago, Ill.
Lucas, Ida West, A. B.....	Elwood, Pa.
Straus, Charles Louis, B. M. E., M. E., '99.....	Lexington.
Terry, Lila Beatrice, A. B.....	Paris.
Trosper, Henderson Taylor, A. B.....	London.
Turner, Job Darbin, B. Ped.....	Lexington.
Ward, Paul Sterling, B. M. E.....	Cincinnati, Ohio.
Wilson, Henry Clay, A. B.....	Cynthiana.

1899.

Allen, Leonard Barnes, B. C. E.....	Whitehouse.
Brock, Walter Lucas, A. B.....	London.
Bronaugh, Will Logan, B. M. E., M. E., '03.....	Chicago, Ill.
Bullock, Frederick Dabney, B. S.....	Lexington.
Bullock, Joseph Hunt, B. S.....	Charlottesville, Va.
Butler, Frances Victor, A. B., A. M., '02.....	Nicholasville.
Copland, Alexander Chisholm, B. C. E.....	Lexington.
Cox, Jane Bramblett, A. B.....	Brewton, Ala.
Davidson, Joseph Ernest, B. C. E.....	Louisville.
Graves, Leila May, B. S.....	Lexington.

Grinstead, Wrenn Jones, A. B.....	Adelaide, Australia.
Horton, Minnie Leigh, A. B.....	Camargo.
Hughes, James William, B. M. E.....	Quincy, Mont.
Jett, Carter Coleman, B. M. E.....	Allegheny, Pa.
Johnston, Philip Preston, B. M. E.....	Lexington.
Maddocks, Roydon Keith, B. C. E.....	Wehrum, Pa.
Marks, Samuel Blackburn, B. S.....	Versailles.
Morrow, Joseph, B. Ped.....	Rankin.
Roberts, George, B. Ped., M. S.....	Berkeley, Cal.
Scherffius, William Henry, B. S.....	Lexington.
Scholtz, Theodore Walter, B. M. E.....	East Pittsburg, Pa.
Simpson, Eugene Irwin, A. B., A. M., B. M. E.....	Lexington.
Smith, Sidney Allen, A. B.....	Louisville.
Vance, Arthur John, B. M. E.....	Cleveland, Ohio.
Warren, Richard Evans, A. B.....	Georgetown.
Willmott, Jennie Walker, B. S.....	Cleveland, Ohio.
Young, Bradley Woodruff, B. S.....	Cincinnati, Ohio.

1900.

Allen, Robert McDowell, A. B.....	Lexington.
Bowden, Mary Willa, A. B.....	Paris.
Brock, David Morris, B. C. E.....	Norfolk, Miss.
Cornett, Charles George, B. Ped.....	Pineville, Oregon.
Cox, Lula May, B. S.....	Lexington.
Darling, Lewis Andrew, B. M. E.....	Palo Alto, Cal.
Frankel, Leon Kaufman, B. M. E., M. E., '02.....	Lexington.
Graham, James Hiram, C. E.....	Knoxville, Tenn.
Graves, James Madison, B. M. E., M. E., '01.....	Pittsburg, Pa.
Gunn, John Tevis, A. B., A. M., '01.....	Corsicana, Texas.
Hestand, John Emerson, B. S.....	Edmonton.
Hundley, Leslie, B. S.....	Rome.
Johnston, John Pelham, B. M. E., M. E., '01.....	Lexington.
Johnston, Marius Early, B. S.....	Lexington.
Jones, Thomas Almon, A. B.....	Creelsboro.
Lester, Arthur Vane, B. C. E.....	Richmond, Va.
McCarty, William Carpenter, B. S.....	Louisville.
Musselman, Joseph Franklin, B. M. E., M. E., '04....	Louisville.
Neal, Mary Eliza, A. B.....	Paris.
Nichols, Thomas Ashbrook, B. M. E.....	Pittsburg, Pa.
Peyton, Nellie Evans, B. S.....	Lexington.
*Ragan, Leonidas, A. B.....	Shearer Valley.
Reed, Jewett Villeroy, B. S.....	Louisville.
*Rieser, Eugene Feist, B. M. E.....	Louisville.
Scrugham, James Graves, B. M. E.....	Reno, Nev.
Smith, Albert Elias, B. S.....	Owensboro.
Smith, Joshua Soule, B. M. E.....	Lexington.
Spears, Miranda Louise, B. S.....	Santa Rosa, N. Mex.
Wilson, James Buckley, B. M. E.....	Louisville.

*Deceased.

1901.

Bassett, Henry Preston, B. S., M. S., '02.....	Cynthiana.
Bewlay, Harry, B. M. E.....	Chicago, Ill.
*Blessing, Charles Albert, B. M. E.....	Buffalo, N. Y. .
Bliss, Charlotte Miriam, A. B.....	Louisville.
Bradley, Charles Walter, B. M. E.....	Norfolk, Va.
Butler, Nannie Etta, B. S.....	Lexington.
Craig, William James, A. B.....	Owensboro.
Cutler, Frank Garfield, B. M. E., M. E., '04.....	Chicago, Ill.
Dabney, Albert Smith, A. B.....	Cadiz.
Daugherty, Frank, B. M. E.....	Pittsburg, Pa.
Ellis, Nicholas Henry, B. Ped.....	Faywood.
Gilbert, John Whittington, B. S.....	Lawrenceburg.
Gordon, Mary Logan, A. B.....	Eminence.
Hailey, George Hereford, B. C. E.....	Springfield, Ill.
Hardin, Calvin Evans, B. S.....	Sibley, La.
*Humphrey, Claude Loecher, B. M. E.....	Lexington.
Hunt, Robert Bruce, B. M. E.....	St. Augustine, Fla.
Johnson, William Piatt, B. Ped.....	Frederickstown, Mo.
Jones, Leila Eleanor, B. Ped.....	Eminence.
Kaufman, Philip Levy, B. M. E.....	Chicago, Ill.
Klein, Garnet Rosel, B. M. E.....	Beloit, Wis.
Lary, Alleen Petitt, B. S.....	Lexington.
Lewis, Charles Dickens, B. Ped.....	Berea.
Luten, Drew William, A. B.....	Cayce.
Marshall, Albert Ross, B. S., M. S., '02.....	Lexington.
Milburn, Frank William, B. M. E., M. E., '04.....	Nashville, Tenn.
Moore, Thomas Brent, A. B.....	Lexington.
Offutt, Jimmie Morrison, B. S., M. S., '04.....	Louisville.
Pennington, William Lee, B. Ped.....	Sandyhook.
Perkins, Wade Hampton, B. C. E.....	Nashville, Tenn.
Rankin, Flora Emma, A. B.....	Rankin.
Richmond, Thomas Logan, B. Agr.....	Manila, P. I.
Seibert, Frank Thomas, B. M. E.....	Philadelphia, Pa.
Sharon, John Albertus, B. Ped.....	Paris.
Shedd, Oliver March, B. S., M. S., '04.....	Lexington.
Taylor, Gibson Walker, A. B.....	Troy, Mo.
Treas, Charles, B. C. E.....	McComb City, Miss.
Webb, William Snyder, B. S., M. S., '02.....	Wewoka, I. T.
West, Perry, B. M. E., M. E., '04.....	Louisville.
Williams, Ella Campbell, B. S., M. S., '02.....	Chilesburg.

1902.

Barr, Thomas James, B. M. E.....	Clay City.
Berry, Jesse Cecil, B. Ped.....	Clintonville.
Boulware, Lemuel Ford, A. B.....	Campbellsburg.

*Deceased.

Bowling Willette Lee, B. M. E.....	New York.
Campbell, Walter Gilbert, A. B.....	Lexington.
Clay, Mathew Martin, B. C. E.....	Lexington.
Cox, Spencer Foster, B. M. E.....	Philadelphia, Pa.
Crider, Albert Foster, A. B., M. S., '03.....	Marion.
Ditto, Leola, B. Ped.....	Pleasureville.
Donan, Daniel Cummins, B. Ped.....	Hardyville.
Doyle, Chester Lawrence, B. M. E.....	Chicago, Ill.
Dunn, Oswald Thorp, B. C. E., C. E., '03.....	New Orleans, La.
Evans, Edwin Clinton, B. M. E.....	London, Eng.
Ewell, George Watkins, A. B.....	Columbus, Ohio.
Fraze, George Burbridge, B. M. E.....	Steven's Point, Wis.
Gaither, Morton Williams, B. M. E.....	Harrodsburg.
Grady, Clyde, A. B., A. M., '03.....	Smith's Mills.
Hart, William Frederick, B. C. E.....	St. Louis, Mo.
Hatfield, Ulysses Grant, B. Ped.....	Jabez.
Haynes, Robert, B. Ped.....	Robards.
Hoeing, Howard Aubrey, B. M. E.....	Cincinnati, Ohio.
Hoeing, Wallace, B. M. E.....	Louisville.
Hughes, William Neal, B. C. E.....	Louisville.
Humphrey, Hubert Lee, B. M. E.....	Cleveland, Ohio.
Jackson, John Hunt, B. Ped.....	New Columbus.
Jett, Charles Mills, B. M. E.....	Allegheny, Pa.
Jones, Theodore Tolman, A. B., A. M., '03.....	Lexington.
Kehoe, John Hickey, B. M. E.....	Cynthiana.
Lawhorn, Jesse Sherman, B. Ped.....	Paris.
Lyne, William, B. M. E.....	Chicago, Ill.
Maddox, David Campbell, A. B.....	Hickman.
Martin, Lewis Wynn, B. M. E.....	St. Louis, Mo.
Mason, Glenn Frank, B. S., M. S., '03.....	Pittsburg, Pa.
McDonald, Samuel Gilbert, B. Agr.....	Chicago, Ill.
Moorman, Robert Emmett, B. C. E.....	Phoenixville, Pa.
Pulverman, William Edward, B. M. E.....	Philadelphia, Pa.
Smith, Chester Martin, B. M. E.....	Buffalo, N. Y.
Smith, Orville Francis, B. C. E.....	Phoenixville, Pa.
Stoner, John Lee, B. C. E.....	Pikeville.
Sumner, Herman, B. M. E.....	Chicago, Ill.
Taylor, Fleming Coffee, B. M. E.....	Chicago, Ill.
Taylor, Lewis Nelson, B. S.....	Science Hill.
Threlkeld, Lal Duncan, A. B.....	Salem.
Upington, George Rout, B. M. E.....	Philadelphia, Pa.
Warnock, Thomas Edwin, B. M. E., M. E., '03.....	Chicago, Ill.
Williams, Cora, B. Ped.....	Bellevue.
Wilson, Richard Napoleon, B. M. E.....	Dayton, Ohio.

1903.

Austin, Mary Wickliffe, A. B.....	Paris.
Earkley, George LaRue, B. M. E.....	Springfield, Ill.
Bradley, Homer Theodore, B. M. E.....	Falmouth.
Brown, John Edwin, B. Agr.....	Shelbyville.
Bullock, Barry, A. B.....	Lexington.
Chorn, Sarah Marshall, A. B.....	Lexington.
Cutler, Thomas Henry, B. M. E.....	Springfield, Ill.
Ellis, Richard Washington, B. M. E.....	Boston, Mass.
Elvove, Elias, B. S.....	Lexington.
Evans, Frederick Huston, B. M. E.....	Ironton, Ohio.
Finneran, James Cornelius, B. M. E.....	Beloit, Wis.
Finneran, Thomas Francis, B. C. E.....	Midway.
Gaither, Edward Basil, B. M. E.....	Mexico.
Galloway, Clarence Albert, A. B.....	Owenton.
Hamilton, Lloyd Logan, B. M. E.....	Chicago, Ill.
Hancock, Mason Wallace, A. B.....	Columbia.
Heaton, Herman Creel, B. M. E.....	Cincinnati, Ohio.
Higgins, Lucy Joseph, A. B.....	Louisville.
Hutchings, John Bacon, B. C. E.....	Louisville.
Kelly, Edward Owen Guerrant, B. S., M. S., '04.....	Lexington.
Lancaster, John Ralph, B. M. E.....	Cleveland, Ohio.
Lyle, Cornelius Railey, B. M. E.....	New York.
Marks, William Mathews, B. M. E.....	Versailles.
Marshall, Isabella West, A. B.....	Lexington.
McKee, Neal Trimble, B. M. E.....	Cleveland, Ohio.
McLaughlin, Marguerite, A. B.....	Lexington.
Miller, Mina Garrard, B. S.....	Elkton.
Nave, Miriam Wynter, B. S.....	Lexington.
Norvell, Lucy Hargis, A. B.....	Carlisle.
Peckinpugh, Charles Leon, B. C. E.....	Louisville.
Pence, Alice Courtney, B. S., M. S., '04.....	Lexington.
Perrine, Charles Duke, B. M. E.....	Maysville.
Rand, Edward, B. M. E.....	Beloit, Wis.
Render, Fannie, A. B.....	Hartford.
Rice, Guy Wickliffe, B. C. E.....	Lexington.
Sadler, Reuben Batson, B. S., M. S., '04.....	Wilmore.
Shannon, Bernardette, A. B.....	Lexington.
Spencer, Howell Mason, B. M. E.....	San Francisco, Cal.
Sprake, Eleanor Hedges, A. B.....	Paris.
*Tandy, Clarke Howell, A. B.....	Oxford, Eng.
Thomas, Smith Riley, B. M. E.....	Beloit, Wis.
Thompson, John James, B. M. E.....	Cincinnati, Ohio.
Vogt, John Henry Leon, B. M. E.....	Indianapolis, Ind.
Whitfield, Nellie Herbert, B. S., M. S., '04.....	Lexington.
Whittinghill, Jackson Pate, B. S.....	Glendean.

*First Kentucky holder of Rhodes Scholarship.

Whittinghill, Roscoe Timoleon, B. Ped.....	Clarksville, Tenn.
Wurtele, Edward Conrad, A. B.....	Louisville.

1904.

Arnett, Richard Hood, B. Ped.....	Troy.
Austin, Lillian, A. B.....	Paris.
Parclay, Robert Hargrave, B. E. M.....	Louisville.
Bell, Howard Kerfoot, B. S., B. C. E.....	Midway.
Buford, Nancy Bell, A. B.....	New Castle.
Butner, Robert Clarke, B. M. E.....	Lexington.
Clo, J. Harry, B. S.....	Science Hill.
Coleman, Harry Raymond, B. Ped.....	Latonia.
Crutchfield, William Boulden, A. B.....	Lexington.
Denny, Samuel Alfred, B. S.....	Madisonville.
Dodson, Marcus Alvin, B. Ped.....	Monticello.
Dowling, Edward Thomas, B. M. E.....	Lexington.
Doyle, Martin Augustus, B. M. E.....	Paris.
Dyer, Orville Kirk, B. M. E.....	De Koven.
Freeman, William Edwin, B. M. E.....	Lexington.
Fry, Henry Skillman, B. M. E.....	Lexington.
Gardner, James Henry, B. S.....	Sonora.
Gary, William Edward, B. S.....	Pembroke.
Gilliland, Eugene, B. M. E.....	Chenault.
Gilmore, Charles Robert, B. S.....	Valley Oak.
Gordon, Amos Alvin, B. C. E.....	Owensboro.
Grey, William David, B. C. E.....	Louisville.
Gullion, Carroll Hanks, B. M. E.....	New Castle.
Harding, George Othniel, B. C. E.....	Campbellsville.
Hart, Benjamin Robert, B. S.....	Fisgah.
Hart, Margaret Rebecca, A. B.....	Fisgah.
Hedges, Fleming Dillard, A. B.....	Walton.
Hoagland, Roy Chan, B. S.....	New Castle.
House, Beverly Pryor, A. B.....	Manchester.
Howard, Styles Ironton, B. M. E.....	Rockvale.
Hunter, Patrick Owen, B. M. E.....	Genedeane.
Jaeger, Helen Louise, A. B.....	Los Angeles, Cal.
Jenkins, Alexander Lewis, B. M. E.....	Bloomfield.
Johnson, Frank Yarbrough, B. M. E.....	Atlanta, Ga.
Johnston, Hampton Wallace, B. M. E.....	Lebanon.
Kelly, Walter Pearson, B. S.....	Hickory Flat.
Lewis, Joseph Graham, B. C. E.....	Cakland.
Madara, Helen Glenn, A. B.....	Lexington.
Maguire, Mary Josephine, B. S.....	Lexington.
Matlack, Charles Aloysius, B. M. E.....	Lexington.
Matthews, John Eve, B. M. E.....	Barbourville.
McCann, Sue Dohyns, B. S.....	Lexington.
McCauley, James Simeon, B. M. E.....	Versailles.
McCaw, Eloise Chesley Hance, B. S.....	Pisgah.

Monson, Bessie Lee, B. Ped.....	Shady Nook.
Montgomery, Francis Joseph, A. B.....	Lexington.
Nollau, Louis Edward, B. M. E.....	Louisville.
Payne, William Campbell, B. S.....	Lexington.
Peratt, Charles Oscar, A. B.....	Hilltop.
Pickles, George Wellington, B. C. E.....	Richmond.
Porch, Madison B., B. S.....	Somerset.
Puckett, Honer, B. C. E.....	Tonieville.
Ramey, Emerson Everett, B. M. E.....	Carlisle.
Renz, Gertrude, B. S.....	Louisville.
Rice, Heber Holbrook, B. S.....	Cambridge, Mass.
Sandefur, James Franklin, A. B.....	Henderson.
Schneider, Frederic Lewis, B. C. E.....	Louisville.
Schultz, Elmer Wilkerson, A. B.....	Lexington.
Shelby, John Craig, A. B.....	Cambridge, Mass.
Shobe, William Merritt, B. Agr.....	Oakland.
Smedley, Sarah Cleveland, A. B.....	Ft. Spring.
Smith, Claude Robert, B. S.....	Elizabethtown.
Smith, Thomas Marshall, B. S.....	Hooktown.
Stackhouse, Clifton Carr, B. M. E.....	Lexington.
St. John, Claire Porter, B. M. E.....	Brooklyn, N. Y.
Thurman, Zella Mae, B. S.....	Somerset.
Tucker, Nannie Susan, A. B.....	Washington.
Vaughn, Earl Cleveland, A. B.....	Smithville.
Warder, William Henry, B. C. E.....	Glasgow.
Ware, Cornelius, B. Ped.....	Pulaski.
Wilkie, Margaret Donald Erskine, B. S.....	Lexington.
Wilson, George Hancock, B. S.....	Lexington.
Wurtele, Henry Joseph, B. C. E.....	Louisville.

1903-04

Military Department.**ROSTER.**CAPTAIN GEORGE L. BYROADE, U. S. A.,
*Commandant.***CADET BATTALION.***Staff.*G. H. GILBERT, First Lieut. and Adjt.
W. H. SCHOENE, First Lieut. and Q. M.
J. W. LANCASTER, Sec. Lieut. and Com.
J. F. SHIPP, Sergt. Maj.
H. M. WEST, Q. M. Sergt.H. WOOSLEY, Color Sergt.
W. E. THOMPSON, Hosp. Steward.
J. M. MATHEWS, Princ. Musician.
O. A. SMITH, Chief Musician.
T. P. PINKERTON, Drum Major.**INFANTRY.**

A COMPANY.	B COMPANY.	C COMPANY.	D COMPANY.	E COMPANY.
CAPTAIN.	CAPTAIN.	CAPTAIN.	CAPTAIN.	CAPTAIN.
F. Johnston	W. C. Kelly	W. H. Grady	C. R. Wallis	R. R. Taliaferro
FIRST LIEUT.	FIRST LIEUT.	FIRST LIEUT.	FIRST LIEUT.	FIRST LIEUT.
H. G. Edwards	A. Akin	H. B. Darling	V. D. Roberts	G. C. Goodloe.
SEC. LIEUT.	SEC. LIEUT.	SEC. LIEUT.	SEC. LIEUT.	SEC. LIEUT.
H. N. Wood	E. B. Stiles	H. P. Ingels	G. W. Vaughn	J. P. Maddox
SERGEANTS.	SERGEANTS.	SERGEANTS.	SERGEANTS.	SERGEANTS.
J. M. Coons	H. L. Williamson	C. B. Owens	E. A. Cline	P. O'Neill
E. P. Kelly	A. H. Rodes	O. McDowell	B. Thomas	W. T. Downing
J. H. McHargue	J. W. Guyn	H. W. Tomlinson	C. P. Lancaster	J. C. Newman
C. R. Wright	H. E. Reed	J. B. Sprake	R. P. Duvalle	E. Webb
E. L. Baird	M. W. Powell	R. Wiley	W. H. Durham	E. D. Scott
D. C. Kinhead	R. C. Terrell	C. J. McPherson	C. W. Ham	H. S. Scott
CORPORALS.	CORPORALS.	CORPORALS.	CORPORALS.	CORPORALS.
H. B. Pope	A. S. Karsner	J. R. Nunnelle	C. C. Hedges	A. D. Murrell
F. C. Mahan	A. L. Donan	H. C. Robinson	J. H. Letton.	H. L. Prather
J. C. Beatty	J. M. Sprague	P. Atkins	C. W. Haynes	P. Bogard
W. P. Kemper	A. N. Whitlock	H. Wilson	J. Webb	F. M. Stone
F. R. Sellman	C. B. Mathis	E. L. Reese	G. D. Howard	S. C. Jones
C. G. Montgomery	L. J. Pryse	C. H. Sutherland	J. W. Lancaster	P. D. Chapman

ARTILLERY.

CAPTAIN.	SERGEANTS.
J. B. Trice	K. P. Adamson
FIRST LIEUT.	J. C. Nesbit
H. F. Scholtz	W. M. Smith

CORPORALS.
W. B. Sherrill
H. E. Thrasher
W. R. Wallace

SIGNAL CORPS. BOYS' CORPS.

SERGEANT.	CORPORALS
J. R. McChord	L. C. Brown
CORPORAL.	E. P. Kelly
D. R. Hays.	G. P. Edwards

BAND.

CAPTAIN.	SERGEANTS.
G. C. Montgomery	W. S. Weaver
H. L. Amoss	E. C. Fain
J. Becker	R. L. Crenshaw

CORPORALS.
J. H. Clo
J. S. Curtis
F. F. Vaughn

PRIVATEs.

I. H. Lawson	W. L. O'Neill
J. V. Morris	H. G. Smith
J. H. Muir	F. H. Tucker

Post Graduates.

Austin, Mary Wickliffe.....	Classical	.....	Paris.
Blessing, George Frederick.....	Mech. Eng.	.....	Reno, Nev.
Bullock, Samuel Archibald.....	Mech. Eng.	.....	New York.
Chorn, Sarah Marshall.....	Classical	.....	Lexington.
Dunn, Oswald Thorp.....	Civ. Eng.	.....	New Orleans.
Elvove, Elias.....	Scientific	.....	Lexington.
Kelly, Edward O. Guerrant.....	Scientific	.....	Troy.
Musselman, Joseph Franklin.....	Mech. Eng.	.....	Louisville.
Nave, Miriam Wynter.....	Scientific	.....	Lexington.
Pence, Alice Courtney.....	Scientific	.....	Lexington.
Scholtz, Theodore Walter.....	Mech. Eng.	.....	Wilkinsburg, Pa.
Taylor, Lewis Nelson.....	Classical	.....	Science Hil.
West, Perry.....	Mech. Eng.	.....	New York.
Whitfield, Nellie Herbert.....	Scientific	.....	Lexington.

Undergraduates.

SENIORS.

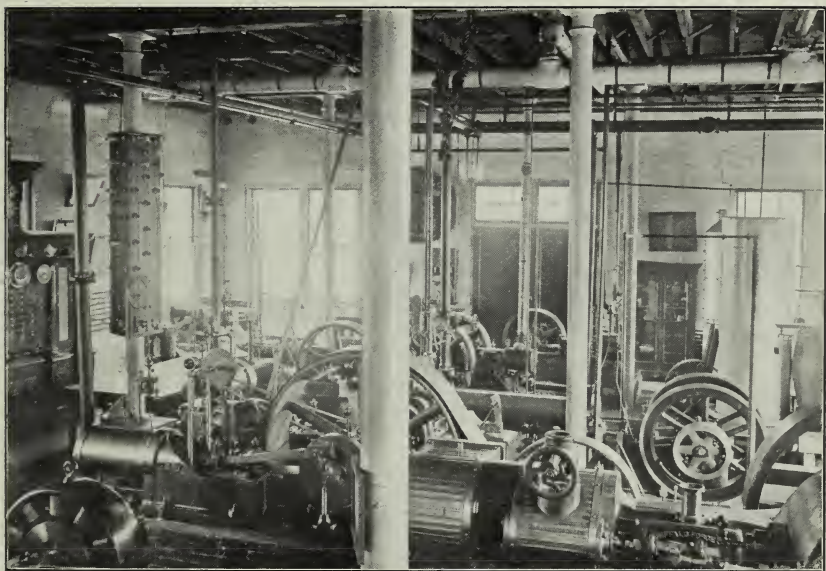
Andrus, Leander Elwood.....	Classical	.....	Mayfield.
Arnett, Richard Hood.....	Normal	.....	Troy.
Austin, Lilian.....	Classical	.....	Paris.
Barclay, Robert Hargrove.....	Min. Eng.	.....	Louisville.
Bell, Howard Kerfoot, B. S.....	Civ. Eng.	.....	Midway.
Buford, Nancy Bell.....	Classical	.....	New Castle.
Butner, Robert Clarke.....	Mech. Eng.	.....	Lexington.
Clo, J. Harry.....	Scientific	.....	Science Hill.
Coleman, Harry Raymond.....	Normal	.....	Latonia.
Crutchfield, William Boulden.....	Classical	.....	Lexington.
Denny, Samuel Alfred.....	Scientific	.....	Madisonville.
Dodson, Marcus Alvin.....	Normal	.....	Monticello.
Dowling, Edward Thomas.....	Mech. Eng.	.....	Lexington.
Doyle, Martin Augustus.....	Mech. Eng.	.....	Paris.
Dyer, Orville Kirk.....	Mech. Eng.	.....	DeKoven.
Eubank, Walter Pendleton.....	Civ. Eng.	.....	Glasgow.
Freeman, William Edwin.....	Mech. Eng.	.....	Lexington.
Fry, Henry Skillman.....	Mech. Eng.	.....	Lexington.
Gardener, James Henry.....	Scientific	.....	Sonora.
Gary, William Edward.....	Scientific	.....	Pembroke.
Gilliland, Eugene.....	Mech. Eng.	.....	Chenault.

Gilmore, Charles Robert.....	Scientific	Valley Oak.
Gordon, Amos Alvin.....	Civ. Eng.....	Owensboro.
Grey, William David.....	Civ. Eng.....	Louisville.
Gullion, Carroll Hanks.....	Mech. Eng.....	New Castle.
Harding, George Othniel.....	Civ. Eng.....	Campbellsville.
Hart, Benjamin Robert.....	Scientific	Pisgah.
Hart, Margaret Rebecca.....	Classical	Pisgah.
Hedges, Fleming Dillard.....	Classical	Walton.
Hoagland, Roy Chan.....	Scientific	New Castle.
House, Beverly Pryor.....	Classical	Manchester.
Howard, Styles Trenton.....	Mech. Eng.....	Rockvale.
Hunter, Patrick Owen.....	Mech. Eng.....	Glendean.
Jaeger, Helen Louise.....	Classical	Lexington.
Jenkins, Alexander Lewis.....	Mech. Eng.....	Bloomfield.
Johnson, Frank Yarbrough.....	Mech. Eng.....	Atlanta, Ga.
Johnston, Hampton Wallace.....	Mech. Eng.....	Lebanon.
Kelly, Walter Pearson.....	Scientific	Hickory Flat.
Lewis, Joseph Graham.....	Civ. Eng.....	Oakland.
Madara, Helen Glenn.....	Classical	Lexington.
Maguire, Mary Josephine.....	Scientific	Lexington.
Matlack, Charles Aloysius.....	Mech. Eng.....	Lexington.
Matthews, John Eve.....	Mech. Eng.....	Barbourville.
McCann, Sue Dobyns.....	Scientific	Lexington.
McCauley, James Simeon.....	Mech. Eng.....	Versailles.
McCaw, Eloise Chesley Hance.....	Scientific	Pisgah.
Monson, Bessie Lee.....	Normal	Shady Nook.
Montgomery, Francis Joseph.....	Classical	Lexington.
Nollau, Louis Edward.....	Mech. Eng.....	Louisville.
Payne, William Campbell.....	Scientific	Lexington.
Peratt, Charles Oscar.....	Classical	Hilltop.
Pickels, George Wellington.....	Civ. Eng.....	Richmond.
Porch, Madison B.....	Scientific	Somerset.
Puckett, Honer.....	Civ. Eng.....	Tonievile.
Ramey, Emerson Everett.....	Mech. Eng.....	Carlisle.
Reese, Robert Rufus Harcourt.....	Civ. Eng.....	Cynthiana.
Renz, Gertrude.....	Scientific	Louisville.
Rice, Heber Holbrook.....	Scientific	Paintsville.
Sandefur, James Franklin.....	Classical	Henderson.
Schneider, Frederic Lewis.....	Civ. Eng.....	Louisville.
Schultz, Elmer Wilkerson.....	Classical	Lexington.
Shelby, John Craig.....	Classical	Lexington.
Shobe, William Merritt.....	Agriculture	Oakland.
Smedley, Sarah Cleveland.....	Classical	Fort Spring.
Smith, Claude Robert.....	Scientific	Elizabethtown.
Smith, Thomas Marshall.....	Scientific	Hooktown.
Stackhouse, Clifton Carr.....	Mech. Eng.....	Lexington.
St. John, Claire Porter.....	Mech. Eng.....	Brooklyn, N. Y.
Thurman, Zella Mac.....	Scientific	Somerset.

Tucker, Nannie Susan.....	Classical	Washington.
Vaughn, Earl Cleveland.....	Classical	Smithville.
Walsh, Robert Bright.....	Classical	Boyd.
Warder, William Henry.....	Civ. Eng.....	Glasgow.
Ware, Cornelius.....	Normal	Pulaski.
Wilkie, Margaret Donald Erskine.....	Scientific	Lexington.
Wilson, George Hancock.....	Scientific	Lexington.
Wurtele, Henry Joseph.....	Civ. Eng.....	Louisville.

JUNIORS.

Adamson, Keith Frazee.....	Mech. Eng.....	Maysville.
Akin, Allison.....	Mech. Eng.....	Princeton.
Amoss, Harold Lindsay.....	Scientific	Paducah.
Bain, Marie Laura.....	Classical	Lexington.
Baird, Elza Leet.....	Civ. Eng.....	Glenville.
Baumgarten, Louis Erwin.....	Mech. Eng.....	Louisville.
Beatty, John Charles.....	Mech. Eng.....	Muir.
Best, Charles Lewis.....	Mech. Eng.....	Maysville.
Bickel, Charles Alfred.....	Mech. Eng.....	Louisville.
Brashear, Sue Ashbrook.....	Classical	Cynthiana.
Bryan, Daniel Boone.....	Mech. Eng.....	Lexington.
Bryan, Ruth Mitchell.....	Classical	Lexington.
Buck, Lucien Allen.....	Mech. Eng.....	Paris.
Campbell, Marion.....	Scientific	Louisville.
Cartwright, Coleman Clyde.....	Civ. Eng.....	Louisville.
Clark, Clifford Friend.....	Classical	Lexington.
Cline, Edgar Allen.....	Mech. Eng.....	Lee's Summit, Mo.
Coons, Joseph Morrison.....	Civ. Eng.....	Mt. Sterling.
Craven, John Thomas.....	Civ. Eng.....	New Castle.
Cremin, Edna Truetta.....	Classical	Louisville.
Darling, Henry Bosworth.....	Mech. Eng.....	Carrollton.
Darnall, Frank Hendrick.....	Mech. Eng.....	Helena.
Davis, Margaret Skillman.....	Classical	Lexington.
Dietrich, Karl Lander.....	Mech. Eng.....	Hopkinsville.
Dodd, Minnie Lee.....	Scientific	Louisville.
Drake, Jimmie.....	Classical	Lexington.
Durham, William Humphrey.....	Normal	Humphrey.
Duvalle, Rankin Powers.....	Mech. Eng.....	Stamping Ground.
Edwards, Harry Griswill.....	Mech. Eng.....	Louisville.
Freeman, Thomas Willmott.....	Mech. Eng.....	Lexington.
Geary, Robert Aloysius.....	Civ. Eng.....	Lexington.
Gfroerer, Fannye Rosalie.....	Scientific	Louisville.
Gilbert, George Hubbard.....	Mech. Eng.....	Lawrenceburg.
Goodloe, Green Clay.....	Mech. Eng.....	Lexington.
Grady, William Henry.....	Mech. Eng.....	Trenton.
Ham, Clarence Walter.....	Mech. Eng.....	Carlisle.
Haynes, Chastain Wilson.....	Scientific	Marion.



EXPERIMENTAL LABORATORY.
(STEAM AND ELECTRICAL ENGINEERING).

Herndon, Leonard George.....	Classical	Louisville.
Ingels, Howard Payne.....	Mech. Eng.....	Lexington.
Johnston, Fayette.....	Mech. Eng.....	Lexington.
Kelly, William Cobb.....	Civ. Eng.....	Fulton.
Kroell, Oscar Robert.....	Min. Eng.....	Cincinnati, O.
Lancaster, Charles Prentice.....	Civ. Eng.....	Paris.
Lancaster, Joseph Woolfolk.....	Civ. Eng.....	Lexington.
Layson, William George.....	Mech. Eng.....	Millersburg.
Madara, John Glenn.....	Civ. Eng.....	Lexington.
Maddox, James Preston.....	Agriculture	Hickman.
McCaulliffe, Winnie Cannon.....	Scientific	Lexington.
McKee, Walter Reid.....	Mech. Eng.....	Mt. Sterling.
Megee, Hilton Haynes.....	Mech. Eng.....	Lexington.
Moore, John Edgar Littleton.....	Scientific	Lewisport.
Morris, Stewart Minor.....	Mech. Eng.....	Lexington.
Murrell, Artemus Delig.....	Mech. Eng.....	Merrimac.
O'Neill, Frank.....	Mech. Eng.....	Paris.
Owens, Charles Beland.....	Mech. Eng.....	Germantown.
Pierce, Claude Stone.....	Classical	Pulaski.
Pinkerton, Thomas Pearce.....	Classical	Versailles.
Pope, Henry Brooks.....	Min. Eng.....	Louisville.
Powell, Max West.....	Mech. Eng.....	Hickman.
Prather, Harry Logan.....	Mech. Eng.....	State Line.
Prewitt, Wilmot Kenney.....	Mech. Eng.....	Mt. Sterling.
Ransom, Edward Rogers.....	Agriculture	Plandville.
Rice, Earl Scott.....	Mech. Eng.....	Lexington.
Roberts, Virgil Dickey.....	Mech. Eng.....	Westview.
Rogers, Anna Gist.....	Classical	Lexington.
Schoene, William Jay.....	Agriculture	Henderson.
Scholtz, Herman Frederick.....	Civ. Eng.....	Louisville.
Shaw, Bessie.....	Classical	Versailles.
Shipp, Joel Fithian.....	Mech. Eng.....	Paris.
Simkins, Curtis Lester.....	Civ. Eng.....	Allegan, Mich.
Smiley, Proctor Knott.....	Mech. Eng.....	Catlettsburg.
Spencer, Bruce Nelson.....	Civ. Eng.....	Pine Grove.
Sprake, James Breckinridge.....	Mech. Eng.....	Stamping Ground.
Stiles, Elijah V. Bland.....	Civ. Eng.....	Hodgenville.
Taylor, Sallie.....	Classical	Hartford.
Thomas, Bennett.....	Mech. Eng.....	Paris.
Tomlinson, Hugh Joseph.....	Mech. Eng.....	Bryantsville.
Trice, John Buckner.....	Mech. Eng.....	Hopkinsville.
Urmston, Henry Howard.....	Mech. Eng.....	Cynthiana.
Vaughn, George William.....	Classical	Lexington.
Wallis, Charles Rees.....	Mech. Eng.....	McKinney.
Wathen, Sallyneill.....	Scientific	Louisville.
Weaver, Walter Simeon.....	Agriculture	Bronston.
Webb, Elzie.....	Civ. Eng.....	Toms.
Wemess, Enga Marie.....	Scientific	Louisville.

West, Howard Murphy.....	Mech. Eng.....	Nicholasville.
Woerner, Emma Josephine.....	Scientific	Louisville.
Wood, Hugh Nelson.....	Civ. Eng.....	Hopkinsville.
Woosley, Herman.....	Agriculture	Fairview.
Wright, Charles Roy.....	Civ. Eng.....	Stanford.
*Young, Roscoe Conkling.....	Agriculture	Cherokee.

SOPHOMORES.

Allen, David Hugh.....	Mech. Eng.....	Edna, Texas.
Allison, Warren Barclay, A. B.....	Civ. Eng.....	Jeffersonville, Ind.
Almy, Samuel Willett.....	Mech. Eng.....	Altamont.
Arrowsmith, Oliver Stockwell.....	Mech. Eng.....	Bethel.
Atkins, Presley Thornton.....	Classical	Lexington.
Barrow, David Woolfolk.....	Scientific	Lexington.
Becker, Theodore Henry.....	Mech. Eng.....	Louisville.
Bogard, Frank.....	Mech. Eng.....	Sebastopol, Cal.
Bowen, Thomas S.....	Civ. Eng.....	Frankfort.
Brown, Llewellyn Chauncey.....	Mech. Eng.....	Harrodsburg.
Carse, Robert Allen.....	Mech. Eng.....	Richmond.
Clarke, Sarah Gregory.....	Classical	Lexington.
Clarkson, Charles James.....	Mech. Eng.....	Lexington.
Clo, Nelson Lewis.....	Mech. Eng.....	Science Hill.
Coffee, Frank Mathew.....	Classical	Sidney, Aust.
Conn, Grace Frank.....	Scientific	Lexington.
Darnaby, Kate Berry.....	Classical	Lexington.
Daugherty, Garrard.....	Scientific	Paris.
Davis, James Withers.....	Civ. Eng.....	Paris.
Downing, William Franklin.....	Mech. Eng.....	Lexington.
Dragoo, Robert Estill.....	Mech. Eng.....	Lexington.
Edmonds, George Peck.....	Mech. Eng.....	Lebanon.
Elam, Shelby Smith.....	Normal	Elam.
Embry, William Douglas.....	Agriculture	Paris.
Fish, Clarence Beauchamp.....	Normal	Lexington.
Gaither, Isaac Hutchison.....	Mech. Eng.....	Harrodsburg.
Greife, Henry Wilson.....	Classical	Dayton.
Guyn, Joel White.....	Civ. Eng.....	Lexington.
Hamilton, James Clay.....	Mech. Eng.....	Uniontown.
Hardin, Samuel Johnston.....	Classical	Loudon.
Hare, Sharkey Sharp.....	Civ. Eng.....	Lexington.
Hedges, Charles Cleveland.....	Scientific	Walton.
Hibler, Edna Parker.....	Classical	Paris.
Hopgood, Roy Caldwell.....	Mech. Eng.....	Morganfield.
Hopson, Katharine Temple.....	Classical	Lexington.
Hubbard, Isaac Madison.....	Agriculture	Waco.
Hughes, Blair.....	Civ. Eng.....	Birmingham, Ala.
Hughes, Thruston.....	Civ. Eng.....	Louisville.

*Deceased.

Hutchcraft, Lucy Keller.....	Classical	Lexington.
Jones, Sadocie Connellee.....	Agriculture	Porter.
Kehoe, Pennell Bramblette.....	Mech. Eng.....	Lexington.
Kelly, Edward Patrick.....	Classical	Hawesville.
Kelly, Richard Henry.....	Mech. Eng.....	Fulton.
Kemper, Priest.....	Civ. Eng.....	Millersburg.
Kendrick, May Clare.....	Classical	Monticello.
Kinthead, David Carneal.....	Mech. Eng.....	Lexington.
Lancaster, John Wilbur.....	Normal	Josephine.
Letton, James Harvey, Jr.....	Mech. Eng.....	Paris.
Lewis, Alexander Thornton.....	Mech. Eng.....	Frankfort.
Lilly, John Appleton.....	Mech. Eng.....	Lexington.
Logan, William Fox.....	Scientific	Lancaster.
Magee, Robert Earl.....	Mech. Eng.....	Cynthiana.
Mahan, Fred Coit.....	Mech. Eng.....	Hyattsville.
Mahoney, Elizabeth Margaret.....	Scientific	Bedford.
McCaw, William Robert.....	Civ. Eng.....	Versailles.
McChord, John.....	Civ. Eng.....	Lebanon.
McClelland, Byron.....	Scientific	Lexington.
McDowell, Omar.....	Mech. Eng.....	Mt. Olivet.
McHargue, James Spencer.....	Scientific	Boreing.
McPherson, Charles Jarrett.....	Mech. Eng.....	Hopkinsville.
McVey, Everett Clyde.....	Civ. Eng.....	Perkins.
Milligan, George Stanley.....	Mech. Eng.....	Lexington.
Montgomery, Charles Garnwell.....	Min. Eng.....	Straight Creek.
Montgomery, George Carter.....	Mech. Eng.....	Liberty.
Newman, James Cleveland.....	Mech. Eng.....	Lexington.
Nesbet, James Clarence, Jr.....	Civ. Eng.....	Madisonville.
Moore, Gus Henry.....	Mech. Eng.....	Hopkinsville.
Moore, Henry Ray.....	Mech. Eng.....	Hubers.
Morris, John Vernon.....	Mech. Eng.....	Hodgenville.
Nunnelley, Eva.....	Classical	Lexington.
Nunnelley, James Robert.....	Mech. Eng.....	Lexington.
Ogg, Grace.....	Classical	Mt. Sterling.
Parrigin, Frank.....	Civ. Eng.....	Albany.
Phipps, Gertrude Lena.....	Classical	Lexington.
Powell, Park.....	Classical	Hickman.
Pride, Louis Bailey.....	Mech. Eng.....	Bordley.
*Pryse, Llewellyn Jones.....	Civ. Eng.....	Beattyville.
Rankin, French Wader.....	Mech. Eng.....	Cynthiana.
Ratliff, Alvin Burns.....	Mech. Eng.....	Bethel.
Read, Henry English.....	Mech. Eng.....	Hodgenville.
Rice, Edgar Poe.....	Normal	Paintsville.
Robinson, Herman Clayton.....	Mech. Eng.....	Stamping Ground.
Rodes, Allen Higgins.....	Scientific	Lexington.
Scott, Ethelbert Dudley.....	Mech. Eng.....	Bement, Ill.
Scott, Henry Skillman.....	Mech. Eng.....	Bement, Ill.

*Deceased.

Scott, Mary.....	Classical	Richmond.
Scrugham, Mary.....	Classical	Lexington.
Sellman, Frank Raymond.....	Mech. Eng.....	Nicholasville.
Shaw, Joseph Stephens.....	Min. Eng.....	Winchester.
Sherrill, Buford Wilson.....	Scientific	Kniffley.
Smith, Lowry.....	Civ. Eng.....	Paducah.
Smith, Maxwell Waide.....	Civ. Eng.....	Hot Springs, Ark.
South, Weldon H.....	Civ. Eng.....	Frankfort.
Stevens, Harold Edwin.....	Agriculture	Prewett.
Stone, Francis Marion.....	Mech. Eng.....	Flemingsburg.
Sutherland, Clay Hutchcraft.....	Mech. Eng.....	Paris.
Taliaferro, Robert Ryland.....	Mech. Eng.....	Pearo, Va.
Taylor, Hugh Wilbur.....	Agriculture	Lewisport.
Taylor, James Julian.....	Mech. Eng.....	Georgetown.
Terrell, Robert Craig.....	Civ. Eng.....	Bedford.
Thomson, William Edgar.....	Scientific	Frost.
Tucker, Frederick Harrig.....	Scientific	Madisonville.
Waide, Daniel Frederick.....	Scientific	Nicholasville.
Wallace, William Rankin.....	Agriculture	Pleasant Home.
Wallis, Anna.....	Scientific	Lexington.
Wallis, Elizabeth Ward.....	Scientific	Lexington.
Ward, Richard Earl.....	Mech. Eng.....	Lancaster.
Warner, Lizzie.....	Classical	Nicholasville.
Webb, John.....	Mech. Eng.....	Greendale.
Wells, Kendrick.....	Normal	Paintsville.
Whitlock, Albert Newton.....	Classical	Richmond.
Wiley, Rodman.....	Civ. Eng.....	White Sulphur.
Wilken, George B.....	Min. Eng.....	Crescent Hill.
Wilkie, Florence.....	Classical	Lexington.
Williamson, Harold Louis.....	Classical	Lexington.
Williamson, Hugh.....	Mech. Eng.....	Lexington.
Wilson, Horace Hildebrand.....	Mech. Eng.....	Lexington.

FRESHMEN.

Acker, Robert.....	Civ. Eng.....	Paducah.
Allen, John Griffin.....	Civ. Eng.....	Owensboro.
Ammerman, Edward Clifton.....	Mech. Eng.....	Cynthiana.
Ammerman, John Roger.....	Mech. Eng.....	Cynthiana.
Archdeacon, Joseph John.....	Mech. Eng.....	Mayslick.
Arnsperger, Rodes Allen.....	Scientific	Lexington.
Barnard, Roscoe Luther.....	Mech. Eng.....	McHenry.
Bataile, James Frank.....	Mech. Eng.....	Lexington.
Blythe, Virginia.....	Scientific	Burlington.
Poggess, Louis Sterling.....	Civ. Eng.....	Lawrenceburg.
Booth, Harry Gilbert.....	Mech. Eng.....	Lawrenceburg.
Branson, Dom Pedro.....	Scientific	Dye.
Brown, Katherine Clark.....	Classical	Lexington.

Buchanan, Allie Stout.....	Mech. Eng.....	Payne's Depot.
Callahan, Chester Douglas.....	Mech. Eng.....	Danleystown.
Carney, Edward Donald.....	Mech. Eng.....	Hopkinsville.
Cassell, George Rose.....	Civ. Eng.....	Lexington.
Chapman, Frank Dalton.....	Mech. Eng.....	Louisville.
Crafton, Milton Cooksey.....	Civ. Eng.....	Henderson.
Craig, Berrywick Staley.....	Mech. Eng.....	Versailles
Cram, Ambrose Byrd.....	Civ. Eng.....	Morgan.
Crume, James Marks.....	Mech. Eng.....	Lebanon.
Davidson, Charles Arthur.....	Mech. Eng.....	Louisville.
Denham, Ernest Myers.....	Civ. Eng.....	Williamsburg.
Dodd, Daniel Jackson.....	Civ. Eng.....	Lexington.
Dodson, Walter Cleveland.....	Normal	Monticello.
Donan, Arthur Liston.....	Civ. Eng.....	Three Springs.
Dowden, William Pugh.....	Mech. Eng.....	Oklahoma.
Dowling, Herbert Patrick.....	Mech. Eng.....	Lexington.
Downing, Nathaniel Armstead.....	Mech. Eng.....	Lexington.
Duvall, Thomas Gay.....	Mech. Eng.....	Lexington.
Edgar, Graham.....	Classical	Paris.
English, John William.....	Agriculture	Tonievile.
Epperson, Thomas Haslam.....	Mech. Eng.....	Nashville, Tenn.
Estill, David Chenault.....	Mech. Eng.....	Lexington.
Eversole, Harry C.....	Classical	Hazard.
Farrell, Walter Augustus.....	Mech. Eng.....	Dayton.
Forbes, James.....	Mech. Eng.....	Hopkinsville.
Frye, James Prentice.....	Mech. Eng.....	Hustonville.
Geary, Thomas Charles.....	Mech. Eng.....	Lexington.
Gilbert, Susie Willis.....	Classical	Marion.
Giltner, Frank Philip.....	Civ. Eng.....	Carrollton.
Goggin, Bessie Engleman.....	Normal	Somerset.
Goodwin, William Ingram.....	Civ. Eng.....	Lexington.
Gordon, Flora McPheeters.....	Classical	Lexington.
Grimes, Ernest Edmund.....	Mech. Eng.....	Lexington.
Grunwell, Paul Clifton.....	Civ. Eng.....	Centerville.
Hamilton, William Shacklette.....	Classical	Brandenburg.
Hannah, Harry Conclave.....	Mech. Eng.....	Lexington.
Hardin, Guy Aud.....	Mech. Eng.....	Brandenburg.
Hart, Robert Singleton.....	Classical	Pisgah.
Hays, David Crandall.....	Agriculture	Bloomfield.
Herman, Joseph George.....	Mech. Eng.....	Newport.
Hillenmeyer, Louis Edward.....	Agriculture	Lexington.
Horton, Harry Curtis.....	Classical	Paris.
Howard, Guyle Benton.....	Mech. Eng.....	Rockvale.
Humphrey, Robert Andrew.....	Mech. Eng.....	Lexington.
Hutchings, Eusebius Theodore.....	Civ. Eng.....	Louisville.
Johnston, Ellis Murray.....	Mech. Eng.....	Lebanon.
Karsner, Albert Sharkey.....	Civ. Eng.....	Lexington.
Kinthead, Davis Carneal.....	Mech. Eng.....	Lexington.

Kinkead, Edmund Shelby.....	Mech. Eng.....	Lexington.
Kinnear, William Kenneth.....	Mech. Eng.....	Lexington.
Kirby, Augustus Monice.....	Classical	Butler.
Lee, Stanley Frazee.....	Mech. Eng.....	Ironton, O.
Lewis, Leo Logan.....	Mech. Eng.....	Lexington.
Lucas, Fannie DeLong.....	Classical	Lexington.
Maddocks, Florence May.....	Scientific	Carrollton.
Mathis, Charles Brothers.....	Mech. Eng.....	Lexington.
McCauley, Worth Orene.....	Mech. Eng.....	Versailles.
McFerran, Warren Viley.....	Mech. Eng.....	Versailles.
McKinney, Walter.....	Mech. Eng.....	Mt. Salem.
Menifee, John Newell.....	Mech. Eng.....	Stanford.
Moore, Vernon Madison.....	Mech. Eng.....	Lexington.
Muir, J. Harry.....	Mech. Eng.....	Paris.
Nicholls, Hal Miller.....	Classical	Bloomfield.
Nicholls, William Durrett.....	Classical	Bloomfield.
Oldham, Eula.....	Normal	Lexington.
Ott, Thomas Foreman.....	Scientific	Lexington.
Parrish, Swift.....	Classical	Lexington.
Piper, Mary Hammond.....	Classical	Lexington.
Paullin, Frank Chester.....	Civ. Eng.....	Springfield, Ill.
Penn, John Buford.....	Mech. Eng.....	Georgetown.
Rankin, Frederick Jones.....	Mech. Eng.....	Rankin.
Rees, Elijah Laytham.....	Civ. Eng.....	Lexington.
Riefkin, Philip.....	Mech. Eng.....	Newport.
Roark, Ruric Creegan.....	Scientific	Lexington.
Rodes, Joseph Waller, Jr.....	Mech. Eng.....	Lexington.
Rogers, Fanny Clark.....	Classical	Lexington.
Rule, Parrin.....	Mech. Eng.....	Falmouth.
Saunders, Hugh Barton.....	Normal	Hickman.
Schoene, Charles Edgar.....	Mech. Eng.....	Henderson.
Scott, Robert Dumont.....	Mech. Eng.....	Lexington.
Shannon, Philip Francis.....	Mech. Eng.....	Lexington.
Smith, Harry Gorin.....	Civ. Eng.....	Glasgow.
Smith, Newton Frank.....	Scientific	Cynthiana.
Spears, Howell Davis.....	Scientific	Lexington.
Sprague, Joseph Miles.....	Mech. Eng.....	Sturgis.
Steele, Arthur Winslow.....	Mech. Eng.....	Lexington.
Stone, William Morgan.....	Classical	Bethel.
Sumner, Gordon.....	Civ. Eng.....	Greenville.
Taylor, Richard Moreland.....	Civ. Eng.....	Owensboro.
Terry, James Cad.....	Mech. Eng.....	Elizabethtown.
Thomas, John William.....	Mech. Eng.....	Georgetown.
Thomasson, Francis Charles.....	Classical	Livermore.
Thompson, Harvey Worthington.....	Civ. Eng.....	Fern Leaf.
Thrasher, Harvey Earl.....	Civ. Eng.....	Lewisport.
Towery, Lonnie Todd.....	Classical	Marion.
Troutman, Henry Harned.....	Civ. Eng.....	Bardstown.

Vaughn, James Marion.....	Mech. Eng.....	Lexington.
Viley, John Rodes.....	Mech. Eng.....	Lexington.
Wallace, William Rankin.....	Classical	Lexington.
Wilkes, Gilbert Van Buren.....	Mech. Eng.....	Washington.
Williams, Herman Taylor.....	Mech. Eng.....	Shepherdsville.
Williamson, William Marion.....	Mech. Eng.....	Lexington.
Wilson, Walter Ashby.....	Scientific	Henderson.
Woods, Lila Whiteman.....	Classical	Maysville.
Woods, Joseph Bond.....	Mech. Eng.....	Lawrenceburg.
Woods, William Clarence, Jr.....	Agriculture	Lawrenceburg.
Woodward, William Drane.....	Mech. Eng.....	Beaver Dam.
Yager, John Joel.....	Mech. Eng.....	Leitchfield.
Young, Charles Henry.....	Mech. Eng.....	Paint Lick.

STUDENTS NOT REGULARLY CLASSIFIED.

Anderson, Lee.....	Agriculture	Lexington.
McGrew, Miller Almer.....	Agriculture	Bayou.
Ricketts, Arthur Grey.....	Agriculture	Mt. Sterling.
Thrasher, Chester Irwin.....	Agriculture	Lewisport.

Normal Students.

FOR THE STATE DIPLOMA.

Bowlds, Fleming.....	Habit	Daviess.
Brewer, Boltos Eldes.....	Williamstown	Grant.
Earle, Irbie Benjamin.....	Charleston	Hopkins.
Elam, Butler Jackson.....	Elam	Morgan.
Elliott, Clarence.....	Humphrey	Casey.
Gambill, Hubert Henry.....	Cannel City.....	Morgan.
Gambill, Lawrence Cato.....	Cannel City.....	Morgan.
Howard, Henderson.....	Baxter	Harlan.
Hudson, William Edward.....	Godfrey	Allen.
Kirk, Estill.....	Philpot	Daviess.
McPherron, Robert Lee.....	McGuffey	Pulaski.
Newman, Andrew Jackson.....	Turner's Station.....	Henry.
Oldham, Eula.....	Lexington	Fayette.
O'Neill, William Talbott.....	Paris	Bourbon.
Strother, Jesse Oldham.....	Whitesville	Daviess.
Tharpe, Alice May.....	Lexington	Fayette.
Vaughan, Frank Friel.....	Cannel City.....	Morgan.

FOR THE STATE CERTIFICATE.

Allen, Alphonso Blane.....	Dwale	Floyd.
Begley, John.....	Alphoretta	Floyd.
Booth, Hallie Louise.....	Leavenworth	Indiana.
Bradley, Mary.....	Stamping Ground.....	Scott.
Britton, Thomas Lambert.....	Big Creek.....	Clay.
Brown, Ira Clay.....	Humphrey	Casey.
Bullock, Grace.....	Hebron	Boone.
Caudill, Stephen Emery.....	Whitesburg	Letcher.
Chambliss, Millie.....	Grayson	Falls o' Rough.
Chambliss, Zilpah Mayme.....	Grayson	Falls o' Rough.
Claybrooke, Annie Garland.....	Springfield	Washington.
Combest, Pauline.....	Phil	Casey.
Crabb, Mary Bell.....	Eminence	Henry.
Filbin, Addie Mae.....	Mt. Sterling....	Montgomery.
Goodlett, Robert.....	Kirkwood	Mercer.
Grogan, Lucille.....	Murray	Calloway.
Guice, Mrs. Sophia.....	Lexington	Fayette.
Hays, Mamie Gertrude.....	So. Park.....	Jefferson.
Hoover, Loula.....	Friedland	Ohio.
Jeffers, Mary Jane.....	Greenville	Muhlenberg.
Joplin, Ella Love.....	Mt. Vernon.....	Rockcastle.
Kelly, Camie.....	Hawesville	Hancock.
Kelly, Mary Louise.....	Owensboro	Daviess.
Lassiter, Albert Enos.....	Cherry	Calloway.
Mann, Ezra.....	Mt. Olivet.....	Robertson.
McFarland, Roy Leighton.....	Delaware	Daviess.
Moore, Blanche.....	Lexington	Fayette.
Miller, Henry Taylor.....	Philpot	Daviess.
Mullikin, Joseph William.....	Piqua	Robertson.
Oakes, Henry.....	Beechland	Metcalfe.
Peffer, Susan.....	Frankfort	Franklin.
Robinson, Marion Marshall.....	Laurel Creek....	Clay.
Sebastian, William Calloway.....	Daysboro	Wolfe.
Sullivan, John Berton.....	Corbin	Whitley.
Utterback, Caleb.....	Sharpsburg	Bath.
Wells, Mary Elizabeth.....	Murray	Calloway.

FOR THE COUNTY CERTIFICATE.

Austin, Mary Wickliffe.....	Paris	Bourbon.
Ball, Etta May.....	Lexington	Fayette.
Ballenger, Effie Furmond.....	Lexington	Fayette.
Banta, James Dudley.....	Bramblette	Nicholas.
Bennett, Clarence Samson.....	Narrows	Ohio.
Booth, Clarence Henry.....	Leavenworth	Indiana.
Poswell, Alexander.....	Narrows	Ohio.
Bush, Gholson Philip.....	Waco	Madison.

Bush, William Tribble.....	Waco	Madison.
Bush, Mary Harding.....	Waco	Madison.
Butler, Nannie Etta.....	Lexington	Fayette.
Cawood, Frank Finley.....	Cawood	Harlan.
Charles, Laura Pauline.....	Lexington	Fayette.
Chenault, Nettie Bronston.....	Richmond	Madison.
Chorn, Sarah Marshall.....	Lexington	Fayette.
Combest, Cordelia Emma.....	Phil	Casey.
Conlee, Lewis.....	Stanten	Powell.
Donohoo, Jacob Benjamin.....	Sacramento	McLean.
Downs, Millard Mason.....	Downs	Greenup.
Eggner, Harry Hollis.....	Aurora	Marshall.
Fightmaster, Earl.....	Davis	Scott.
Gilbert, Evelyn Christine.....	Speedwell	Madison.
Gibson, Walter.....	Dublin	Graves.
Hart, Mary Emma.....	Cleveland	Fayette.
Herring, Forrest.....	Oakville	Logan.
Holton, Harry.....	Falmouth	Pendleton.
Hubbard, Martha.....	Waco	Madison.
Jackson, Eula.....	Speedwell	Madison.
Johnson, Robert Allen.....	Annville	Jackson.
Juett, Edna.....	Georgetown	Scott.
Kirk, Theodore Tilton.....	Philpot	Daviess.
Littrell, Carrie Lillian.....	Lexington	Fayette.
McFerran, John.....	Pine Hill.....	Rockcastle.
McKenna, Joseph Bernard.....	Lexington	Fayette.
Mathews, Mary.....	Port Royal.....	Henry.
Medlock, Cleve.....	Morton's Gap....	Hopkins.
Mercer, John Otto.....	Raymond	Breckinridge.
Million, Jackson Egbert.....	Richmond	Madison.
Moore, Paul.....	Faith	McLean.
Payne, Anna Laura.....	Bewleyville.....	Breckinridge.
Peratt, William Hurst.....	Hilltop	Fleming.
Pierce, George B.....	Eronston	Pulaski.
Rader, Roy Edward.....	Annville	Jackson.
Reed, Nunnie.....	Gifford	Magoffin.
Reed, Wiley Burns.....	Hager	Magoffin.
Smith, Jean Lyne.....	Lexington	Fayette.
Stephens, Oscar James.....	Hawesville	Hancock.
Strong, Florence.....	Athol	Breathitt.
Sullivan, Robert Lee.....	Lexington	Fayette.
Thompson, Alta.....	Mayfield	Graves.
Tillett, Flora Evelyn.....	Lexington	Fayette.
Trayler, Pearl Monroe.....	Rufus.....	Caldwell.
Wallace, Arthur.....	Golden Pond....	Trigg.
Wallace, Daniel.....	Irvine	Estill.
Whittinghill, Irene.....	Trisler	Ohio.
Williamson, Morah.....	Lexington	Fayette.

The Academy.

SECOND YEAR STUDENTS.

Anderson, Edward Marshall.....	Big Stone Gap, Va.
Ashurst, Nannie Pearl.....	Lexington.
Atherton, Paul Fulton.....	Nuckols.
Atkins, Davis Corbin.....	Lexington.
Barbee, George Read.....	Lexington.
Bean, Harry Campbell.....	Lexington.
Bean, Louis Vimont.....	Lexington.
Bogard, George Taylor.....	Golden Pond.
Brewer, Leo.....	Golo.
Bryant, Thompson Ripley.....	Eminence.
Clay, Roby Wornall.....	Lexington.
Cleaver, William Grove.....	Lebanon.
Coyne, Thomas Edward.....	Lexington.
Crenshaw, Robert Walden.....	Cadiz.
Crowder, Margaret Lee.....	Sinai.
Curtis, James Stewart.....	Lexington.
Dohoney, Turner Merritt.....	Lebanon.
Downing, Harold Hardesty.....	Lexington.
Dragoo, Omie Wymen.....	Lexington.
Fain, Elmore Crenshaw.....	Lexington.
Fried, Sienna Kathryn.....	Lexington.
Galloway, Clinton Robert.....	Falmouth.
Givens, Thomas Karr.....	Paducah.
Goode, Ernest Frankel.....	Lexington.
Greathouse, Elsie.....	Pinckard.
Griffing, John Carlisle.....	Lexington.
Hall, Howard Henry.....	Milburn.
Herring, Henry Lemuel.....	Oakville.
House, Charles Bland.....	Manchester.
Hurst, Margaret David.....	Donerail.
Hutchcraft, David Keller.....	Lexington.
Jackson, Samuel Texas.....	Clinton.
Kearney, Daniel Anthony.....	Donerail.
Leaming, Thomas Corwin.....	Lexington.
Lovelace, Roger.....	Carlisle.
McCutcheon, Jesse Robert.....	Beattyville.
McNamara, William Ignatius.....	Lexington.
Mathers, Albert Marion.....	Bardwell.
Milward, Luke Usher.....	Lexington.
Minor, Xema Clistor.....	Corinth.
Moore, Richard Steele.....	Donerail.
Mosely, John Milton.....	Calhoun.

Mosely, Madison Rawls.....	Calhoun.
Oldham, Bessie Lee.....	Nealton.
Patrick, Samuel James.....	Salyersville.
Penrod, Alphon.....	Montrose.
Poynter, Arthur Lawrence.....	Adairville.
Proctor, Bennett McCreary.....	Lexington.
Scherffius, Frederick Fanon.....	Lynnville.
Shearer, Ada Napoleon.....	Hidalgo.
Smith, Monroe Standish.....	Lexington.
Smith, William Granville.....	Muir.
Stoll, John William Moore.....	Lexington.
Tucker, Clyde.....	Lexington.
Vinton, Elmer Karl.....	Morehead.
Vories, Willard Louis.....	Monterey.
Wall, William Harrison.....	Cayce.
Wegner, Frank August.....	Lexington.
Welsh, John Wesley.....	Berea.
Wilson, Robert Clyde.....	Lexington.
Wilson, Walter Ashby.....	Henderson.

FIRST YEAR STUDENTS.

Adams, Henry.....	Olmstead.
Atkins, Robert Ryland.....	Lexington.
Atkinson, Charles Lowe.....	Cynthiana.
Baker, Smith Gentry.....	Lexington.
Ballard, Hogan.....	Bryantsville.
Barbee, Richard Carroll.....	Lexington.
Bennett, Edgar.....	Irvington.
Bewlay, Crawford Willard.....	Lexington.
Bodkin, Jesse Thomas.....	Bardwell.
Boldrick, William Cleaver.....	Lebanon.
Bowman, Charles Francis.....	Lexington.
Bussey, Joseph Crislip.....	Busseyville.
Cassidy, Tilton Jackson.....	Lexington.
Claycomb, Payton Rhea.....	Webster.
Coffman, Roy Cleveland.....	Calhoun.
Coons, William Lester.....	Montrose.
Creekmore, Ross Addison.....	Lexington.
Crosthwaite, John Scarce.....	Lexington.
Dickerson, Henry Clay.....	Beattyville.
Dunbar, Philetus.....	Columbia.
Elam, Arthur Matthew.....	Ashland.
Erdman, William Kenney.....	Lexington.
Evans, Walter Owsley.....	Stanford.
Fields, Melvin Green.....	Lexington.
Garvin, Cecil Clement.....	Olive Hill.
George, Mary Allan.....	Lexington.
Gilchrist, George Alexander.....	Lexington.

Greathouse, Joseph Felix.....	Pinckard.
Greathouse, William McCoy.....	Hawesville.
Greathouse, William Wesley.....	Pinckard.
Hardesty, Lizzie Belle.....	Muir.
Hargis, Evelyn.....	Jackson.
Harp, Raymond Elliott.....	Lexington.
Harris, William Robert.....	Union City.
Hays, Rodney Malcomb.....	South Park.
Hieronymus, James Burrows.....	Monica.
Holmes, Luther.....	Mt. Olivet.
Howard, Clyde.....	Pilot Oak.
Hudson, Halcomb.....	Lexington.
Johnson, John Elliott Cooper.....	Tallega.
Kelly, Lucia Fairfax.....	Lexington.
King, John Thomas.....	Cadiz.
Lay, Owen Trimble.....	Bayou.
Lewis, James Otis.....	Sorgho.
Lyddan, Michael Henry.....	Webster.
Mahoney, Frank.....	Bedford.
Marsh, Stephen Allen.....	Portsmouth, O.
Mastin, James Edward.....	Faywood.
Merris, Bernie Dale.....	Lexington.
Murphy, James Lee.....	Turnersville.
Neblett, Patrick Henry.....	Turner's Station.
Nunnelley, Samuel Philip.....	Lexington.
Nutter, Reed.....	Georgetown.
Parker, George Hudsbeth.....	Lexington.
Proctor, William Ezra.....	Morehead.
Roberts, Walter.....	Manchester.
Robertson, Bessie Lee.....	Lexington.
Savage, Roxie.....	Lexington.
Scott, Charlotte Hart.....	Lexington.
Shehan, Annie Laura.....	Bloomfield.
Shehan, Eugene Brown.....	Bloomfield.
Shemwell, Henry Allan.....	Birdsville.
Smith, Frank Rayburn.....	Adairville.
Smith, Walter Edward.....	Morganfield.
Stackhouse, William Owsley.....	Lexington.
Veal, Guy Roscoe.....	Vealsburg.
Waters, Lawrence Brown.....	Middletown.
Wells, Emery.....	Lexington.
White, Beverly Pryor.....	Lexington.
White, Octo.....	Lexington.
Willmott, Curtis Simeon.....	Lexington.

Students of the Summer School.

1. IN THE NORMAL SCHOOL.

Agee, Allie.....	Owenton	Owen.
Alexander, Bina.....	Slaughtersville ..	Webster.
Bowden, A. O.....	Dublin	Graves.
Biggerstaff, Margaret.....	Ludlow	Kenton.
Bierly, Davis M.....	Frankfort	W. Va.
Clifton, Adelia.....	Hopkinsville	Christian.
Cain, Mary E.....	Taylorsville	Spencer.
Cassidy, Irene M.....	Lexington	Fayette.
Charles, Laura P.....	Lexington	Fayette.
Earle, Lula.....	Charleston	Hopkins.
Foley, Minnie.....	Middlesboro	Bell.
Fox, Olive.....	Dalton	Hopkins.
Faulkner, Hattie.....	Ashland	Boyd.
Garnett, Susie.....	Hopkinsville	Christian.
Hood, Dixie Anna.....	Lexington	Fayette.
Hudson, William E.....	Godfrey	Allen.
Irvine, Mrs. Jennie.....	Lexington	Fayette.
Jeffers, Mary Jane.....	Greenville	Muhlenberg.
King, Addie.....	Ford	Clark.
Kelly, Anna Carrie.....	Hawesville	Hancock.
Kelly, Mary Louise.....	Owensboro	Daviess.
Lander, Alice.....	Hopkinsville	Christian.
Laughlin, Anna.....	Mt. Sterling	Montgomery.
Moore, C. P.....	Sacramento	McLean.
McGovern, Mary.....	Lexington	Fayette.
Mason, Mrs. I. S.....	Fordsville	Ohio.
Mason, I. S.....	Fordsville	Ohio.
McKenney, J. W.....	Davis	Scott.
McPherron, Robert Lee.....	Flat Rock.....	Pulaski.
Moore, Blanche.....	Lexington	Fayette.
Nichols, F. T.....	Woodstock	Pulaski.
Nunan, Emma.....	Springfield	Washington.
Owings, Annie.....	Lexington	Fayette.
Penn, Mary.....	Hopkinsville	Christian.
Petty, J. W.....	Fordsville	Ohio.
Reed, Ida.....	Covington	Kenton.
Reynolds, Araminta.....	Lewisport	Hancock.
Rouse, Lillie.....	Payne's Depot....	Scott.
Scott, Eva.....	Monterey	Owen.
Scott, Beulah.....	Gratz	Owen.
Sullivan, Hattie.....	Williamsburg ...	Whitley.

Sullivan, Flora.....	Williamsburg ...	Whitley.
Sandusky, Roberta.....	Lexington	Fayette.
Stoner, Mary.....	Hopkinsville ...	Christian.
Smith, T. A.....	Font Hill.....	Russell.
Sellars, Mrs. Evalena.....	Mayfield	Graves.
Talbott, Bessie.....	Cynthiana	Harrison.
Triplett, M. C.....	Stithton	Hardin.
Tanner, A. S.....	Pleasant Ridge..	Daviess.
Tharp, W. H.....	Anchorage	Jefferson.
Tharp, Maude.....	Junction City...	Boyle.
Thurmond, E. C.....	Lytle	Lincoln.
Utterback, Caleb.....	Sharpsburg	Bath.
Wilson, Blanche.....	Covington	Kenton.
Yancey, Jessie O.....	Maysville	Mason.

2. IN MECHANICAL ENGINEERING.

Blessing, C. E.....	Carrollton.
Carlisle, L. A.....	Lebanon.
Dowling, E. T.....	Lexington.
Elam, A. M.....	Ashland.
Freeman, T. W.....	Lexington.
Huntington, J. B.....	Lexington.
Kinthead, D. C.....	Lexington.
Lewis, A. T.....	Versailles.
Marrs, S. C.....	Lexington.
Megee, H. H.....	Lexington.
Muncy, V. E.....	Lexington.
Pollock, J. D.....	Franklin, Pa.
Scrugham, J. G.....	Reno, Nev.
Shipley, J. C.....	Scottsville.
Simkins, C. L.....	Lexington.
St. John, C. P.....	Brooklyn, N. Y.
Strong, E. T.....	Urbana, Ill.
Tanner, A. S.....	Lexington.
Williamson, H.....	Lexington.

3. IN PHYSICS.

Kelly, Mary Louise.....	Owensboro.
Sweeny, Mary E.....	Lexington.
Woolfolk, J. W.....	Midway.

4. IN THE ACADEMY.

Bass, Bernard Wentworth.....	Richmond, Va.
Bean, Harry Campbell.....	Lexington.
Cassell, George Rose.....	Lexington.
Caywood, Clarence Power.....	Ewing.
Lowden, William Pugh.....	Oklahoma.

Duvalle, Rankin Powers.....	Stamping Ground.
Estill, David Chenault.....	Lexington.
Fotch, George.....	Lexington.
Garvey, Leota.....	Lexington.
Geary, Thomas Charles.....	Lexington.
Goode, Ernest Frankel.....	Lexington.
Greathouse, Elsie.....	Pinckard.
Hardin, Guy Aud.....	Brandenburg.
Hart, Robert Singleton, Jr.....	Pisgah.
Hubbard, Isaac Madison.....	Waco.
Hutchcraft, David Keller.....	Lexington.
Jackson, Samuel Texas.....	Clinton.
Jones, Sadocie Connellee.....	Porter.
Kearney, Daniel Anthony.....	Donerail.
Kinthead, Davis Carneal.....	Lexington.
Kinnear, William Kenneth.....	Lexington.
Martin, Thomas.....	Lexington.
Mathis, Charles Brothers.....	Lexington.
Maxey, Reuben Yancey.....	Sacramento.
McNamara, William Ignatius.....	Lexington.
Patrick, Samuel James.....	Swampton.
Proctor, Bennett McCreary.....	Lexington.
Rodes, Joseph Waller, Jr.....	Lexington.
Scherffius, Frederick Fanon.....	Louisville.
Smith, Harry Gorin.....	Glasgow.
Smith, Monroe Standish.....	Lexington.
Stoll, John William Moore.....	Lexington.
Stevens, Harold Edwin.....	Pruett.
Thomasson, Charles Francis.....	Livermore.
Vaughn, James Marion.....	Lexington.
Viley, John Rodes.....	Lexington.
Ware, Cornelius.....	Pulaski.
Wagner, Franklin August.....	Lexington.
Willmott, Curtis Simeon.....	Lexington.
Wilson, James Hardin.....	Richmond.
Worthington, Elmer Francis.....	Morgan.
Wright, Charles Roy.....	Stanford.

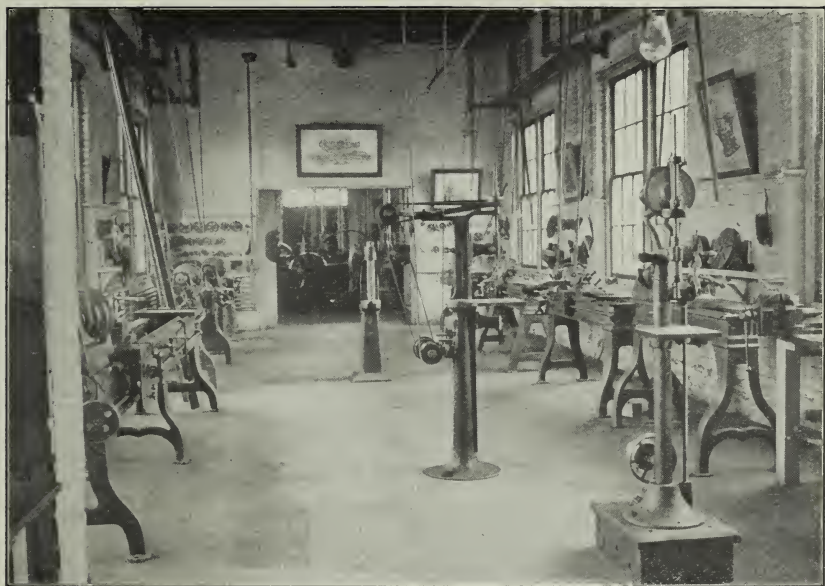
Summary.

Collegiate Students	Scien- tific	Class- ical	Civ. Eng.	Mech. Eng.	Min. Eng.	Nor- mal	Agri- cult	Class Totals
Post-Graduates	5	3	1	5	..	..	..	14
Seniors	19	18	12	20	1	5	1	76
Juniors	10	14	16	42	2	1	6	92
Sophomores	15	21	19	47	3	5	6	115
Freshmen	8	20	22	63	..	4	4	121
Totals.....	57	76	70	177	6	15	17	418

Students not regularly classified.....	4
Normal Students for the State Diploma	17
Normal Students for the State Certificate	36
Normal Students for the County Certificate ...	56
Normal Students in the Summer School.....	55
Mech. Eng. Students in the Summer School....	19
Students of Physics in the Summer School.....	3
Students in the Academy.....	132
Academy Students in the Summer School.....	42

Total	364
Deduct students counted twice.....	50
Total of non-Collegiate students.....	314
Total of Collegiate students.....	418

Whole number of students..... 732



MACHINE SHOP ANNEX.

1904-05**Military Department.**

FIRST LIEUT. W. B. BURTT, 5TH U. S. INFANTRY.

*Commandant.***ROSTER OF THE CADET BATTALION.***Staff.*ADJUTANT.
D. C. KinkadQUARTERMASTER.
J. C. NewmanCOMMISSARY.
J. C. Nesbit*Non-Commissioned Staff.*SERGEANT.
J. R. NunnallyQUARTERMASTER-SERGEANT.
P. T. AtkinsCOMMISSARY-SERGEANT.
J. M. SpragueCOLOR-SERGEANTS.
W. P. Kemper
W. McKinney**A COMPANY.**CAPTAIN.
E. P. Kelly

FIRST LIEUT.
H. E. Read

SEC. LIEUT.
F. C. Mahan

1ST SERGEANT.
F. R. SellmanSERGEANTS.
D. P. Branson
W. D. Woodard
G. Daugherty
A. T. Lewis
H. E. StephensCORPORALS.
T. R. Bryant
G. R. Veal
J. G. Allen
G. T. Bogard
S. W. Almy
C. R. Galloway**B COMPANY.**CAPTAIN.
W. P. Wiley

FIRST LIEUT.
R. C. Terrill

SEC. LIEUT.
A. N. Whitlock

1ST SERGEANT.
F. BogardSERGEANTS.
R. A. Arnspiger
H. H. Wilson
D. H. Allen
S. C. Jones
J. W. RodesCORPORALS.
F. A. Battaile
B. S. Craig
S. Hart
L. E. Hillenmeyer
R. L. Sims
A. L. Poynter**C COMPANY.**CAPTAIN.
O. McDowell

FIRST LIEUT.
H. C. Robinson

SEC. LIEUT.
L. C. Brown

1ST SERGEANT.
C. J. McPhersonSERGEANTS.
A. L. Donan
E. L. Rees
A. S. Karsner
L. L. Lewis
H. D. SpearsCORPORALS.
C. E. Schoene
R. L. Acker
T. F. Ott
F. S. Vogt
G. Barbee
J. R. Ammerman**D COMPANY.**CAPTAIN.
W. F. Downing

FIRST LIEUT.
C. C. Hedges

SEC. LIEUT.
J. M. McHargue

1ST SERGEANT.
F. W. RankinSERGEANTS.
J. W. Lancaster
R. E. Dragoo
G. B. Howard
B. McClelland
A. W. SteeleCORPORALS
H. H. Downing
G. Wilkes
D. C. Estill
G. Edgar
P. Rule
M. C. Crafton**BATTERY.**CAPTAIN.
H. S. Scott

FIRST LIEUT.
M. F. Smith

SEC. LIEUT.
R. E. Hopgood1ST SERGEANT.
J. C. Hamilton

SERGEANTS.
P. Riefkin
R. H. Moore
B. E. Brewer
R. D. Scott**SIGNAL CORPS.**CORPORALS.
F. S. Paulin
A. M. Kirby
F. Kelly
W. C. DodsonSERGEANT.
G. P. Edmonds

CORPORALS.
L. S. Boggess
P. F. Shannon

Post Graduates.

Anderson, Henry Clay, B. M. E.....	Mech. Eng.....	Ann Arbor, Mich.
Barclay, Robert Hargrove, B. E. M.....	Min. Eng.....	Louisville.
Bewlay, Henry, B. M. E.....	Mech. Eng.....	Lexington.
Cassidy, Elizabeth, A. B.....	Classical	Lexington.
Chorn, Sarah Marshall, A. B.....	Classical	Lexington.
Clarke, Mary Eva, B. S.....	Classical	Lexington.
Clo, J. Harry, B. S.....	Scientific	Science Hill.
Cox, Spencer Foster, B. M. E.....	Mech. Eng.....	Philadelphia, Pa.
Crutchfield, William Boulden, A. B.....	Classical	Lexington.
Evans, Edward Clinton, B. M. E.....	Mech. Eng.....	Johnstown, Pa.
Fraze, George Burbridge, B. M. E.....	Mech. Eng.....	Louisville.
Geerhardt, Othon.....	Scientific	Belgium.
Hart, Benjamin Robert, B. S.....	Scientific	St. Louis, Mo.
Heaton, Herman Creel, B. M. E.....	Mech. Eng.....	Cincinnati, O.
Hoeing, Wallace, B. M. E.....	Mech. Eng.....	Louisville.
Hoeing, Howard Aubrey, B. M. E.....	Mech. Eng.....	Cincinnati, O.
House, Beverly Pryor, A. B.....	Classical	Manchester.
Hunt, Robert Bruce, B. M. E.....	Mech. Eng.....	St. Augustine, Fla.
Kelly, Walter Pearson, B. S.....	Scientific	Gibbstown, N. J.
Klein, Garnett Rosel, B. M. E.....	Mech. Eng.....	Louisville.
Martin, Lewis Wynn, B. M. E.....	Mech. Eng.....	St. Louis, Mo.
McCann, Sue Dobyns, B. S.....	Scientific	Lexington.
Pulverman, William Edward, B. M. E.....	Mech. Eng.....	Philadelphia, Pa.
Sandefur, James Franklin, A. B.....	Classical	Henderson.
Scherffius, William Henry, B. S.....	Scientific	Lexington.
Scholtz, Theodore Walker, B. M. E.....	Mech. Eng.....	Pittsburg, Pa.
Smith, Thomas Marshall, B. S.....	Scientific	Hooktown.
Sweeney, Mary E., B. S.....	Scientific	Lexington.
Taylor, Fleming Coffee, B. M. E.....	Mech. Eng.....	Ft. Smith, Ark.
Vaughn, Earl Cleveland, A. B.....	Agriculture	Shelbyville.
Walrath, Louis Dayton, B. S.....	Scientific	Wilmore.
Walsh, Robert Bright, A. B.....	Classical	Chattanooga.
Whitfield, Nellie Herbert, B. S.....	Classical	Lexington.
Wilkie, Margaret Donald Erskine, B. S.....	Scientific	Lexington.
Wilson, Joseph Buckley, B. M. E.....	Mech. Eng.....	Louisville.

Undergraduates.

SENIORS.

Adamson, Keith Frazee.....	Mech. Eng.....	Maysville.
Akin, Allison.....	Mech. Eng.....	Princeton.
Amoss, Harold Lindsay.....	Scientific	Cobb.

Baumgarten, Louis Erwin.....	Mech. Eng.....	Louisville.
Bickel, Charles Alfred.....	Mech. Eng.....	Louisville.
Brashear, Sue Ashbrook.....	Classical	Cynthiana.
Bryan, Ruth Mitchell.....	Classical	Lexington.
*Burt, Wilson Bryant.....	Civ. Eng.....	Lexington.
Campbell, Marion.....	Scientific	Louisville.
Cline, Edgar Allen.....	Mech. Eng.....	Lexington.
Coons, Joseph Morrison.....	Civ. Eng.....	Mt. Sterling.
Darling, Henry Bosworth.....	Mech. Eng.....	Carrollton.
Darnall, Frank Kendrick.....	Mech. Eng.....	Helena.
Dietrich, Karl Lander.....	Mech. Eng.....	Hopkinsville.
Dodd, Minnie Lee.....	Scientific	Louisville.
Drake, Jimmie.....	Classical	Lexington.
Edwards, Harry Griswell.....	Mech. Eng.....	Louisville.
Eubank, Walter Pendleton.....	Civ. Eng.....	Glasgow.
Gfroerer, Fannye Rosalie.....	Scientific	Louisville.
Gilbert, George Hubbard.....	Mech. Eng.....	Lawrenceburg.
Grady, William Henry.....	Mech. Eng.....	Trenton.
Ham, Clarence Walker.....	Mech. Eng.....	Carlisle.
Haynes, Chastain Wilson.....	Scientific	Marion.
Ingels, Howard Payne.....	Mech. Eng.....	Lexington.
Johnston, Fayette.....	Mech. Eng.....	Lexington.
Kelly, William Cobb.....	Civ. Eng.....	Fulton.
Kroell, Oscar R.....	Min. Eng.....	Cincinnati, O.
Lancaster, Charles Prentice.....	Civ. Eng.....	Paris.
Layson, William George.....	Mech. Eng.....	Millersburg.
Morris, Stewart Minor.....	Mech. Eng.....	Lexington.
Murphey, Ernest James.....	Classical	Pembroke.
Murrell, Artemus Delig.....	Mech. Eng.....	Merrimac.
Ogg, Grace Truman.....	Classical	Mt. Sterling.
Owens, Charles Beland.....	Mech. Eng.....	Germantown.
Payne, William Johnson.....	Mech. Eng.....	Georgetown.
Pierce, Claude Stone.....	Classical	Pulaski.
Pope, Henry B.....	Min. Eng.....	Louisville.
Powell, Max West.....	Mech. Eng.....	Hickman.
Prather, Harry Logan.....	Mech. Eng.....	State Line.
Ransom, Edward Rogers.....	Agriculture	Blandville.
Reese, Robert Harcourt.....	Civ. Eng.....	Cynthiana.
Roberts, Virgil Dick.....	Mech. Eng.....	Westview.
Rogers, Anna Gist.....	Classical	Lexington.
Schoene, William Jay.....	Agriculture	Henderson.
Scholtz, Herman Frederick.....	Civ. Eng.....	Louisville.
Shaw, Bessie.....	Classical	Versailles.
Shipp, Joel Fithian.....	Mech. Eng.....	Paris.
Sprake, James Breckinridge.....	Mech. Eng.....	Stamping Ground.
Stiles, Elijah V. Bland.....	Civ. Eng.....	Hodgensville.

*From U. S. Military Academy, 1898.

Thomas, Bennett.....	Mech. Eng.....	Paris.
Tomlinson, Hugh Joseph.....	Mech. Eng.....	Bryantsville.
Tye, Rachel.....	Classical	Polleyton.
Urmston, Henry Howard.....	Mech. Eng.....	Cynthiana.
Wallis, Charles Rees.....	Mech. Eng.....	McKinney.
Walsh, Robert Bright.....	Classical	Chattanooga.
Wathen, Sallyneill.....	Scientific	Louisville.
Weaver, Walter Simeon.....	Agriculture	Hubbell.
Webb, Elzie.....	Civ. Eng.....	Downs.
Werness, Inga Marie.....	Scientific	Louisville.
West, Howard Murphy.....	Mech. Eng.....	Nicholasville.
Woerner, Emma Josephine.....	Scientific	Louisville.
Wood, Hugh Nelson.....	Civ. Eng.....	Hopkinsville.
Woosley, Herman.....	Agriculture	Fairview.
Wright, Charles Roy.....	Civ. Eng.....	Lexington.

JUNIORS.

Allen, David Hugh.....	Mech. Eng.....	Elizabethtown.
Atkins, Presley Thornton.....	Classical	Lexington.
Baird, Elza Leet.....	Civ. Eng.....	Greenville.
Baxter, William Jefferson.....	Classical	Logana.
Bogard, Frank.....	Mech. Eng.....	Golden Pond.
Brown, Llewellyn Chauncey.....	Mech. Eng.....	Harrodsburg.
Bryan, Daniel Boone.....	Mech. Eng.....	Lexington.
Campbell, Elizabeth Brown.....	Classical	Louisville.
Cartwright, Coleman Clyde.....	Civ. Eng.....	Louisville.
Chinn, Alexander Julian.....	Mech. Eng.....	Frankfort.
Clarke, Sarah Gregory.....	Classical	Lexington.
Clo, Nelson Lewis.....	Mech. Eng.....	Science Hill.
Conn, Grace Frank.....	Scientific	Lexington.
Daugherty, Garrard.....	Scientific	Paris.
Downing, William Franklin.....	Mech. Eng.....	Lexington.
Dragoo, Robert Estill.....	Mech. Eng.....	Lexington.
Durham, William Humphrey.....	Normal	Humphrey.
Duvalle, Rankin Powers.....	Civ. Eng.....	Stamping Ground.
Edmonds, George Peck.....	Mech. Eng.....	Lebanon.
Francis, Lewis.....	Min. Eng.....	Red Ash.
Goggin, Bessie Engleman.....	Scientific	Somerset.
Goodloe, Green Clay.....	Scientific	Lexington.
Gough, Archilles Galloway.....	Mech. Eng.....	Benton.
Gregory, Mary Cottell.....	Classical	Louisville.
Hamilton, James Clay.....	Mech. Eng.....	Uniontown.
Hedges, Charles Cleveland.....	Scientific	Walton.
Herndon, Leonard George.....	Classical	Louisville.
Hopgood, Roy Caldwell.....	Mech. Eng.....	Morganfield.
Hopson, Katharine Temple.....	Classical	Lexington.
Hutchcraft, Lucy Keller.....	Classical	Lexington.

Jones, Sadocie Connellee.....	Agriculture	Porter.
Kelly, Edward Patrick.....	Classical	Hawesville.
Kemper, William Priest.....	Civ. Eng.....	Millersburg.
Kinthead, Davis Carneal.....	Mech. Eng.....	Lexington.
Lancaster, John Wilbur.....	Normal	Josephine.
Letton, James Harvey.....	Civ. Eng.....	Paris.
Lewis, Alexander Thornton.....	Mech. Eng.....	Frankfort.
Magee, Robert Earl.....	Mech. Eng.....	Cynthiana.
Magee, Wallace Hopkins.....	Mech. Eng.....	Louisville.
Mahan, Fred Coit.....	Mech. Eng.....	Hyattsville.
Mahoney, Elizabeth Margaret.....	Scientific	Bedford.
McClelland, Byron.....	Scientific	Walnut Hill.
McCulloch, Eugenia Sue.....	Scientific	Louisville.
McDowell, Omas.....	Mech. Eng.....	Mt. Olivet.
McHargue, James Spencer.....	Scientific	Boreing.
McPherson, Charles Jarrett.....	Mech. Eng.....	Hopkinsville.
Megee, Hilton Harvey.....	Civ. Eng.....	Lexington.
Montgomery, Charles Carter.....	Mech. Eng.....	Liberty.
Moore, Henry Ray.....	Mech. Eng.....	Huber.
Newman, James Cleveland.....	Mech. Eng.....	Lexington.
Nisbit, James Clarence.....	Civ. Eng.....	Madisonville.
Nunnelley, Eva May.....	Classical	Lexington.
O'Neil, Frank, Jr.....	Mech. Eng.....	Paris.
Prewitt, Wilmott Kenney.....	Mech. Eng.....	Mt. Sterling.
Rankin, French Wade.....	Mech. Eng.....	Cynthiana.
Read, Henry English.....	Mech. Eng.....	Hodgensville.
Riefkin, Philip.....	Mech. Eng.....	Newport.
Robinson, Herman Clayton.....	Mech. Eng.....	Georgetown.
Rodes, Allen Higgins.....	Scientific	Lexington.
Rogers, James Dell.....	Civ. Eng.....	Louisville.
Scott, Henry Skillman.....	Mech. Eng.....	Bement, Ill.
Scott, Mary Estill.....	Scientific	Richmond.
Scrugham, Mary.....	Classical	Lexington.
Sellman, Frank Raymond.....	Mech. Eng.....	Nicholasville.
Smith, Maxwell Waide.....	Civ. Eng.....	Hot Springs, Ark.
Stevens, Harold Edwin.....	Agriculture	Pruett.
Taliaferro, Robert Ryland.....	Mech. Eng.....	Pedro, Va.
Taylor, Hugh Wilbur.....	Agriculture	Lewisport.
Terrill, Robert Craig.....	Civ. Eng.....	Bedford.
Trice, John Buckner.....	Mech. Eng.....	Hopkinsville.
Volkman, Alice.....	Classical	Louisville.
Waide, David Frederick.....	Scientific	Nicholasville.
Wallis, Anna.....	Classical	Lexington.
Webb, John, Jr.....	Mech. Eng.....	Lexington.
Weir, Fanny.....	Classical	Louisville.
Wendt, Wiley Brodbeck.....	Civil Eng.....	Newport.
Whitlock, Albert Newton.....	Classical	Richmond.
Whittinghill, John Pate.....	Min. Eng.....	Glendean.

Wiley, Rodman.....	Civ. Eng.....	White Sulphur.
Wilkie, Florence.....	Classical	Lexington.
Wilson, Horace Hildebrand.....	Mech. Eng.....	Lexington.

SOPHOMORES.

Abraham, Juanita.....	Scientific	Louisville.
Acker, Robert Louis.....	Civ. Eng.....	Paducah.
Alexander, Josie.....	Classical	Paris.
Allen, John Griffin.....	Civ. Eng.....	Owensboro.
Almy, Samuel Willett.....	Mech. Eng.....	Altamont.
Ammernan, John Roger.....	Mech. Eng.....	Cynthiana.
Archdeacon, Joseph John.....	Mech. Eng.....	Mayslick.
Arnold, Lloyd La Claire.....	Mech. Eng.....	Bagdad.
Arnsperger, Rodes Allen.....	Scientific	Lexington.
Baer, Stanley T.....	Civ. Eng.....	Louisville.
Bagby, Mary Logan.....	Classical	Danville.
Battaile, James Frank.....	Mech. Eng.....	Lexington.
Becker, Theodore Henry.....	Mech. Eng.....	Louisville.
Bogges, Louis Sterling.....	Civ. Eng.....	Lawrenceburg.
Bowen, Thomas Stout.....	Civ. Eng.....	Frankfort.
*Branham, William Henry.....	Civ. Eng.....	Georgetown.
Branson, Dom Pedro.....	Agriculture	Dye.
Brewer, Boltos Elder.....	Agriculture	Williamstown.
Brown, William Waters.....	Civ. Eng.....	Shelbyville.
Carney, Edward Donald.....	Mech. Eng.....	Hopkinsville.
Carse, Robert Allen.....	Mech. Eng.....	Richmond.
Crafton, Milton Cooksie.....	Civ. Eng.....	Henderson.
Cram, Ambrose Byrd.....	Civ. Eng.....	Morgan.
Craig, Berrywick Staley.....	Mech. Eng.....	Versailles.
Crume, James Marks.....	Mech. Eng.....	Lebanon.
Denham, Ernest Myers.....	Civ. Eng.....	Williamsburg.
Dodd, Daniel Jackson.....	Civ. Eng.....	Lexington.
Dodson, Walter Cleveland.....	Normal	Monticello.
Donan, Arthur Liston.....	Civ. Eng.....	Three Springs.
Edgar, Graham.....	Scientific	Paris.
Elam, Shelby Smith.....	Normal	Elam.
Estill, David Chenault.....	Mech. Eng.....	Lexington.
Farrell, Walter Augustus.....	Mech. Eng.....	Dayton.
Forbes, James Madison.....	Civ. Eng.....	Hopkinsville.
Goodwin, William Ingram.....	Civ. Eng.....	Lexington.
Gordon, Flora McPheters.....	Classical	Lexington.
Gratz, Nicholas Warfield.....	Civ. Eng.....	Lexington.
Grunwell, Paul Clifton.....	Mech. Eng.....	Centerville.
Guyn, Joel White.....	Civ. Eng.....	Lexington.
Hamilton, William Schacklette.....	Classical	Brandenburg.
Hardin, Guy Aud.....	Mech. Eng.....	Brandenburg.

*Second Kentucky holder of the Rhodes Scholarship.

Hart, Robert Singleton.....	Classical	Pisgah.
Haynes, Elliott Latham.....	Civ. Eng.....	Louisville.
Hermann, Joseph George.....	Civ. Eng.....	Newport.
Hillenmeyer, Louis Edward.....	Agriculture	Lexington.
Horton, Harry Curtis.....	Classical	Paris.
Howard, Guyle Benton.....	Mech. Eng.....	Rockvale.
Hudson, William Edward.....	Civ. Eng.....	Godfrey.
Hutchings, Eusebius Theodore.....	Civ. Eng.....	Louisville.
James, Henry Lane.....	Classical	Mt. Sterling.
Johnson, Ellis Murray.....	Mech. Eng.....	Lebanon.
Karsner, Albert Sharkey.....	Civ. Eng.....	Lexington.
Kirby, Augustus Morris.....	Classical	Butler.
Lawson, Fayette Hewett.....	Mech. Eng.....	Shively.
Lee, Stanley Frazee.....	Mech. Eng.....	Ironton, O.
Logan, George Lewis.....	Mech. Eng.....	Lexington.
Maddocks, Florence May.....	Scientific	Carrollton.
Madison, James Talbot.....	Civ. Eng.....	Cynthiana.
Mahan, Charles Alfred.....	Agriculture	Lancaster.
Mathis, Charles Brothers.....	Mech. Eng.....	Salt River.
McClelland, Thomas Brown.....	Classical	Lexington.
McKinney, Walter.....	Mech. Eng.....	Mt. Salem.
McVey, Ernest Clyde.....	Civ. Eng.....	Williamsburg.
Montgomery, William Mason.....	Mech. Eng.....	Frankfort.
Nicholls, William Durrett.....	Agriculture	Bloomfield.
Nunnelley, James Robert.....	Mech. Eng.....	Lexington.
Ott, Thomas Foreman.....	Scientific	Lexington.
Parrish, Charles Swift.....	Classical	Lexington.
Paullin, Frank Chester.....	Civ. Eng.....	Springfield, Ill.
Piper, Mary Hammond.....	Classical	Lexington.
Rankin, Frederick Jones.....	Mech. Eng.....	Rankin.
Rees, Elijah Laytham.....	Civ. Eng.....	Lexington.
Roark, Ruric Creagan.....	Scientific	Lexington.
Rodes, Joseph Waller, Jr.....	Civ. Eng.....	Lexington.
Rogers, Fanny Clarke.....	Classical	Lexington.
Rule, Parrin.....	Mech. Eng.....	Falmouth.
Scherffius, Benjamin Franklin.....	Agriculture	Lynnville.
Schoene, Charles Edward.....	Mech. Eng.....	Henderson.
Shannon, Philip Francis.....	Mech. Eng.....	Lexington.
Spears, Howell Davis.....	Scientific	Lexington.
Sprague, Joseph Miles.....	Mech. Eng.....	Sturgis.
Steele, Arthur Winslow.....	Mech. Eng.....	Yarnallton.
Stigers, James Francis.....	Civ. Eng.....	Frankfort.
Stone, William Morgan.....	Classical	Bethel.
Strachan, George Morris.....	Civ. Eng.....	Louisville.
Sumner, Gordon.....	Civ. Eng.....	Greenville.
Sutherland, Clay Hutchcraft.....	Mech. Eng.....	Paris.
Taylor, Richard Moreland.....	Civ. Eng.....	Owensboro.
Terry, James Cad.....	Mech. Eng.....	Elizabethtown.

Thomas, John William.....	Mech. Eng.....	Georgetown.
Thorne, James Webster.....	Mech. Eng.....	Louisville.
Tiwery, Beverly Todd.....	Classical	Marion.
Urnston, Katherine.....	Normal	Cynthiana.
Vandercook, Ralph.....	Civ. Eng.....	Springfield, Ill.
Vogt, Frank Sherman.....	Mech. Eng.....	Louisville.
Wallis, Elizabeth Ward.....	Scientific	Lexington.
White, William Terrell.....	Mech. Eng.....	Louisville.
Wilkes, Gilbert Van Buren.....	Mech. Eng.....	Washington.
Woodard, William Drane.....	Mech. Eng.....	Beaver Dam.
Woods, William Clarence, Jr.....	Agriculture	Lawrenceburg.
Yager, John Joel.....	Mech. Eng.....	Leitchfield.

FRESHMEN.

Adair, George Stalworthy.....	Mech. Eng.....	Paris.
Alden, William Oliver.....	Civ. Eng.....	Petersburg.
Alexander, Josie.....	Normal	Paris.
Allen, Lutie Darnall.....	Scientific	Lexington.
Allen, S. H.....	Normal	
Anderson, Lee.....	Mech. Eng.....	Spencer.
Ashbrook, Samuel J.....	Civ. Eng.....	Cynthiana.
Avery, Anna Jeffords.....	Classical	Lexington.
Babbage, Arthur Wallace.....	Classical	Cloverport.
Barbee, George Read.....	Mech. Eng.....	Lexington.
Bean, Henry Campbell.....	Civ. Eng.....	Lexington.
Bean, Louis Vimont.....	Civ. Eng.....	Lexington.
Beard, Thomas Wilson.....	Civ. Eng.....	Lexington.
Bell, Duncan.....	Mech. Eng.....	Nicholasville.
Bennett, Benjamin Warfield.....	Classical	Richmond.
Bennett, Clarence Smason.....	Mech. Eng.....	Narrows.
Blessing, Paul Nestel.....	Mech. Eng.....	Carrollton.
Bogard, George Taylor.....	Mech. Eng.....	Golden Pond.
Bowlds, Fleming.....	Normal	Philpot.
Brewer, Leo.....	Classical	Golo.
Brown, Morris Trumbo.....	Civ. Eng.....	Owingsville.
Browning, John Keith.....	Mech. Eng.....	Maysville.
Bryant, Thomas Ripley.....	Agriculture	Eminence.
Buchanan, Allie Stout.....	Mech. Eng.....	Payne's.
Buckner, Ella Simpson.....	Classical	Lexington.
Buckner, Garrett Davis.....	Scientific	Lexington.
Burgueires, Ernest Aloysius.....	Mech. Eng.....	New Orleans.
Carter, Sara McEachin.....	Classical	Lexington.
Clarke, Mary Erd.....	Classical	Lexington.
Clary, Delling.....	Mech. Eng.....	Cynthiana.
Clary, Howe Boyd.....	Mech. Eng.....	Lexington.
Clay, Roby Wornall.....	Mech. Eng.....	Lexington.
Cline, Stella.....	Normal	Lexington.
Coleman, Samuel Boin.....	Civ. Eng.....	Elkton.

Cornelison, Hubert Lee.....	Mech. Eng.....	Richmond.
Crowder, Margaret Lee.....	Classical	Sinai.
Curtis, James Steward.....	Mech. Eng.....	Lexington.
Dabney, Sidney Vaughn.....	Classical	Paducah.
Daugherty, Helen Lucille.....	Classical	Paris.
Dean, Willis Johnson.....	Mech. Eng.....	Owensboro.
Downing, Harry Hardesty.....	Civ. Eng.....	Lexington.
Earle, Irbie Benjamin.....	Civ. Eng.....	Madisonville.
Feland, Faris Robinson.....	Classical	Lawrenceburg.
Fishback, James Morgan.....	Mech. Eng.....	Pine Grove.
Fried, Sienna Kathryn.....	Scientific	Lexington.
Galloway, Clinton Robert.....	Mech. Eng.....	Falmouth.
Givens, Tom Karr.....	Agriculture	Paducah.
Gooding, Lemuel Parry.....	Scientific	Lexington.
Green, Warren Thornton.....	Mech. Eng.....	English.
Hamilton, William Perry Browning.....	Scientific	Lexington.
Hcanan, Joseph Harper.....	Scientific	West Point.
Herring, Henry Samuel.....	Mech. Eng.....	Oakville.
Holland, Reuben Miller.....	Scientific	Whitesville.
Houlihan, John Joseph.....	Scientific	Lexington.
Howerton, Thomas McCluskey.....	Civ. Eng.....	Shelbyville.
Hutchcraft, Davis Keller.....	Mech. Eng.....	Lexington.
Johnson, Betsy Herndon.....	Classical	Muir.
Johnson, Mary Smith.....	Classical	Muir.
Keller, Irvine Morse.....	Mech. Eng.....	Shawhan.
Kelly, Cott C.....	Civ. Eng.....	Hickory Flat.
Kiesel, Walter Christian.....	Mech. Eng.....	Carrollton.
Kinkead, Edmond Shelby.....	Scientific	Lexington.
Kinkead, Carneal.....	Scientific	Lexington.
Kirby, Walter L.....	Classical	Butler.
Kirk, Estill.....	Civ. Eng.....	Philpot.
Kirk, Morris Cushman.....	Mech. Eng.....	Maysville.
Lilly, Walter Thomas.....	Scientific	Lexington.
Lynch, Kathryn Wilhelmine.....	Scientific	Nicholasville.
Manning, George Madison.....	Classical	Manchester.
Martin, Grace Lee.....	Classical	Lexington.
Mathers, Albert Marion.....	Mech. Eng.....	Carlisle.
McCauley, Joseph Muir.....	Mech. Eng.....	Morganfield.
McCorkle, Graham King.....	Mech. Eng.....	Eminence.
McCullough, William Henry.....	Civ. Eng.....	Louisville.
McCutcheon, Jesse Robert.....	Mech. Eng.....	Beattyville.
McDowell, Robert Chester.....	Civ. Eng.....	Louisville.
McFerran, Warren Viley.....	Mech. Eng.....	Versailles.
McGinnis, John Logan.....	Mech. Eng.....	Versailles.
McKee, Grover Cleveland.....	Civ. Eng.....	Cynthiana.
McNamara, William Ignatius.....	Mech. Eng.....	Lexington.
McNutt, James Morton.....	Classical	Black Walnut, Va.
McPherson, Robert Lee.....	Normal	McGuffey.

Milton, James Leslie.....	Civ. Eng.....	Marion.
Nicholas, Evelyn VanMeter.....	Classical	Lexington.
Noel, William Henry.....	Mech. Eng.....	Bellevue.
Oldham, Edwin Bronston.....	Scientific	Lexington.
Orr, Thomas James.....	Mech. Eng.....	Princeton.
Pence, Christina.....	Classical	Lexington.
Penn, John Buford.....	Mech. Eng.....	Georgetown.
Penrod, Alphon.....	Mech. Eng.....	Lexington.
Pogue, Joseph Laytham.....	Mech. Eng.....	Mayslick.
Powell, Frank Congleton.....	Mech. Eng.....	Carlisle.
Poynter, Arthur Lawrence.....	Mech. Eng.....	Adairsville.
Preston, William.....	Classical	Lexington.
Proctor, Bennett McCreary.....	Mech. Eng.....	Lexington.
Rice, Clayton Jefferson.....	Civ. Eng.....	Greenville.
Roche, Frank Lee.....	Scientific	Paris.
Rodes, William, Jr.....	Scientific	Lexington.
Roswell, Charles Miller.....	Mech. Eng.....	Sparta.
Roth, Henry Clay.....	Mech. Eng.....	Waterbury, Conn.
Sampson, Reed J.....	Mech. Eng.....	Middlesboro.
Scherer, Raymond Adelbert.....	Mech. Eng.....	Lexington.
Schroth, Carl Anderson.....	Mech. Eng.....	Lexington.
Schultz, Henry Jacob.....	Mech. Eng.....	Louisville.
Scott, Robert Dumont.....	Mech. Eng.....	Lexington.
Shanklin, Shelby.....	Classical	Lexington.
Shelby, William Washington.....	Min. Eng.....	Henderson.
Shryock, William Masner.....	Mech. Eng.....	Lexington.
Sims, Robert Lee.....	Mech. Eng.....	Lexington.
Slack, Ella.....	Normal	West Point.
Slicer, Amos.....	Mech. Eng.....	Paris.
Smith, Rand.....	Mech. Eng.....	Lexington.
Smith, Milton Sears.....	Mech. Eng.....	Nicholasville.
Snyder, Mary.....	Classical	Lexington.
Speyer, Harry Aaron.....	Scientific	Kansas City.
Steinert, Louise Franzman.....	Scientific	Versailles.
Stoll, John William.....	Scientific	Lexington.
Stone, Ellen.....	Classical	Sturgis.
Swartz, Guy Taylor.....	Mech. Eng.....	Carlisle.
Swearingen, William Roy.....	Civ. Eng.....	Paris.
Taylor, Guy Baker.....	Scientific	Lexington.
Thompson, George Christopher.....	Mech. Eng.....	Paducah.
Thompson, Harry Worthington.....	Civ. Eng.....	Fernleaf.
Viley, John Rodes.....	Mech. Eng.....	Lexington.
Walker, Madie Lee.....	Classical	Lexington.
Warren, Thomas Philip.....	Mech. Eng.....	Lexington.
Watson, James Saffell.....	Civ. Eng.....	Lexington.
Wegner, Frank August.....	Agriculture	Lexington.
Wilhoit, Azra Lytle.....	Mech. Eng.....	Utica.
Wilkes, Francis Marshall.....	Classical	Washington.

Wilson, Robert Clyde.....	Mech. Eng.....	Lexington.
Yates, Howard.....	Classical	Covington.
Young, Ralph Gray.....	Civ. Eng.....	Covington.

NOT REGULARLY CLASSIFIED.

Wright, J. R.....	Agriculture	Louisville.
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Normal Students.**FOR THE STATE DIPLOMA.**

Alcorn, Stella.....	Greenwood	Fulaski.
Black, Marvin.....	Hartford.....	Ohio.
Brown, Ira Clay.....	Humphrey	Casey.
Bruner, Jacob Franklin.....	Whitesville	Daviess.
Caudill, Stephen Emory.....	Whitesburg	Letcher.
Cawood, Frank Finley.....	Harlan	Harlan.
Clark, Charles Estill.....	Maytown	Morgan.
Cram, Edith.....	Morgan	Pendleton.
Ford, Nell Hart.....	Lexington	Fayette.
Garman, Fred.....	Lexington	Fayette.
Goddard, Thomas Lewis.....	Monticello	Wayne.
Goddard, Joseph Justin.....	Monticello	Wayne.
Haney, William Henry.....	Ezel	Morgan.
Kelly, Frank Evarts.....	Evarts	Harlan.
Lisle, Andrew.....	Ford	Madison.
Miller, John Clyde.....	Olmstead	Logan.
Morgan, Vina.....	Yerkes	Perry.
Murphy, William Barton.....	Owensboro	Daviess.
Rader, Roy Edward.....	Annnville	Jackson.
Riedel, Gus.....	Holt	Breckinridge.
Ryan, Charles Obie.....	Monticello	Wayne.
Scott, George Thomas.....	Earles	Muhlenberg.
Schultz, Oscar Lewis.....	Narrows	Ohio.
Smith, George Kendall.....	Lewisport	Hancock.
Toy, Elliott.....	Henderson	Henderson.
Vaughn, Frank F.....	Cannel City.....	Morgan.

FOR THE STATE CERTIFICATE.

Acton, Lula May.....	Sulphur Springs.	Ohio.
Arnold, Emma Gentry.....	Morgan	Pendleton.
Daniel, Stella Melcenia.....	Olaton	Ohio.
Davis, Henry Arnold.....	Maysville	Mason.
De Bord, Vira Crawford.....	Level Green.....	Rockcastle.

Elliott, Clarence.....	Humphrey	Casey.
Gambill, Henry Hubert.....	Cannel City.....	Morgan.
Goins, Charles.....	Manchester	Clay.
Gregory, Lulie Harris.....	Eminence	Henry.
Harl, Bevvie.....	Owensboro	Daviess.
Haynes, Mary Lena.....	Westview	Breckinridge.
Hill, Minnie May.....	Smithfield	Henry.
Holton, Harry Calvin.....	Falmouth	Pendleton.
Houchell, Francis Marion.....	Manchester	Clay.
Hoskins, Bess.....	Lakeville	Magoffin.
Million, Jackson Egbert.....	Richmond	Madison.
Myers, John.....	Earlington	Hopkins.
Scott, May.....	Bryantsville	Garrard.
Stoy, Anna Elizabeth.....	Leitchfield	Grayson.
Todd, Amanda.....	Irvine	Estill.
Wethington, Mary Hortense.....	West Louisville..	Daviess.

FOR THE COUNTY CERTIFICATE.

Arnold, Raymond Risk.....	Morgan	Pendleton.
Arnold, Mattie Pauline.....	Bryantsville	Garrard.
Ashcraft, Stella.....	Irvine,	Estill.
Austin, Lillian.....	Paris	Bourbon.
Bishop, Walter Francis.....	Falmouth	Pendleton.
Boyce, Charles David.....	Williamstown ..	Grant.
Bowman, Harriett Elizabeth.....	Porter	Scott.
Bush, William Tribble.....	Waco	Madison.
Bush, Fannie Wilson.....	Waco	Madison.
Chipman, Battie.....	Williamstown ..	Grant.
Duvall, Walter Jilson.....	Savage	Clinton.
Freeman, Stolla Mae.....	Trinity	Lewis.
Galbraith, Freeman.....	Brooksville	Bracken.
Glass, Howard.....	Beechwood	Owen.
Hoagland, Joseph Thomas.....	Taffy	Ohio.
Hughes, Bessie.....	Edenton	Madison.
Johnson, Cora Sudie.....	Hazard	Perry.
Johnson, Henry Houston.....	Leadington	Elliott.
Jones, James Black.....	Harlan	Harlan.
Kirk, Theodore Tilton.....	Philpot	Daviess.
Klein, George William.....	Kenton	Kenton.
Littlepage, Cecil.....	Chesley	Hopkins.
Lykens, Jesse Blaine.....	Petersville	Lewis.
Messer, Lyda Margaret.....	Vale	Rowan.
Moore, Terah.....	Shelby	Boyle.
Peratt, William Hunt.....	Hilltop	Fleming.
Pickerell, Claude Ignatius.....	Scythia	Daviess.
Pierce, George Bonaparte.....	Bronston	Pulaski.
Powell, Lloyd Henry.....	Weldon	Meade.

Ramsay, Bartam Logan.....	Palace	Wayne.
Shuttles, Mary Stella.....	Junction City....	Boyle.
Sievers, Willie Newton.....	Nancy	Pulaski.
Sparks, Alfred Burkett.....	Noah	Lewis.
Staples, Virginia Ruth.....	Concordia	Meade.
Starks, Emina Cooper.....	South Park.....	Bullitt.
Taylor, John.....	Pineville	Bell.
Wallace, Daniel Frank.....	Irvine	Estill.
White, Charles Griffin.....	Irvine	Estill.
White, John Owen.....	Tartar	Adair.
Whitfield, Nellie Herbert.....	Lexington	Fayette.

The Academy.

SECOND YEAR STUDENTS.

Alcorn, John Griffin Carlisle.....	Hustonsville.
Austin, Curtis Dennis.....	Bagdad.
Ballard, Joseph Hogan.....	Bryantsville.
Farbee, Richard Carroll.....	Lexington.
Beaumont, Arthur Bishop.....	Mayfield.
Bennett, Edgar.....	Irvington.
Bewlay, Willard Crawford.....	Lexington.
Bowden, Aberdeen Orlando.....	Sedalia.
Bowman, Charles Francis.....	Lexington.
Cartmell, James Emmet.....	Elizaville.
Chisholm, Otha Balfour.....	Acton.
Coons, William Lester.....	Lexington.
Cox, William Floyd.....	Harlan.
Creekmore, Ross Addison.....	Lexington.
Crosthwaite, John Scarce.....	Lexington.
Dohoney, Turner Merritt.....	Lebanon.
Dunn, Thomas English.....	Marcellus.
Elam, Arthur Matthew.....	Ashland.
Ellis, Cecil Byrnes.....	Treacy.
Erdman, William Kenney.....	Lexington.
Garvin, Cecil Clement.....	Olive Hill.
Greathouse, William McCoy.....	Hawesville.
Greathouse, William Wesley.....	Pinckard.
Hamilton, John Kahao.....	Kansas City, Mo.
Hardesty, Lizzie Belle.....	Muir.
Harris, William Robert.....	Union City.
House, Charles Bland.....	Manchester.
Hudgins, Thomas Frederick.....	Olive Hill.
Hudson, Halcomb.....	Lexington.

Jackson, Samuel Texas.....	Clinton.
Kearney, Daniel Anthony.....	Donerail.
Lyddan, Michael Henry.....	Webster.
Mastin, James Edward.....	Faywood.
McCutcheon, Jesse Robert.....	Beattyville.
Merriss, Bernie Dale.....	Lexington.
Neblett, Patrick Henry.....	Turner's Station.
Riggs, Schulty.....	Calhoun.
Scherffius, Frederick Fanon.....	Lynnville.
Shannon, Margaret Martin.....	Lexington.
Shemwell, Henry Allen.....	Birdsville.
Simmons, Arnold.....	Richmond.
Simmons, James McCreary.....	Richmond.
Smith, Frank Rayburn.....	Adairsville.
Stackhouse, William Owsley.....	Lexington.
Veal, Guy Roscoe.....	Vealsburg.
Wallace, Leonard DeLong.....	Lexington.
Waters, Lawrence Brown.....	Middletown.
Wells, Emery.....	Lexington.
White, Beverly Pryor.....	Lexington.
White, Octo.....	Lexington.
Williams, Byron Demetrius.....	Crofton.
Worthington, Elmer Francis.....	Morgan.
Yankey, Andrew George.....	Springfield.

FIRST YEAR STUDENTS.

Atkins, Robert Ryland.....	Lexington.
Barnes, Herbert Caldwell.....	Ft. Thomas.
Bodkin, Jesse Thomas.....	Bardwell.
Cabrera, Peter Rafael.....	Managua, Nicaragua.
Cram, Royalston Haywood.....	Morgan.
Cress, Herbert Clyde.....	Monticello.
Croley, John William.....	Bryant's Station.
Dimock, Chester Arthur.....	Boston, Mass.
Durham, Hardy Britton.....	Lexington.
Dwelly, Reuel Malcolm.....	Lexington.
Glass, Rhoda Virginia.....	Lexington.
Glaze, Jesse L.....	Lexington.
Goodwin, Docia Baker.....	Cerulean.
Goodwin, George Early.....	Lexington.
Greathouse, Joseph Felix.....	Pinckard.
Hart, George Denny.....	Cleveland.
Hieronimus, James Burrows.....	Monica.
Jacobs, Silas.....	Powersville.
James, Thomas Council.....	Leitchfield.
Johnson, Cora.....	Chavies.
Johnson, John Elliott Cooper.....	Tallega.
Johnston, Albert Edward.....	Aurora, Mo.

Jones, Elbert Raymond.....	London.
Kelly, Lucia Fairfax.....	Lexington.
Kinkead, Shelby.....	Lexington.
Litsey, Richard Roy.....	Cox's Creek.
Long, Luther Alexander.....	Bagdad.
Miller, Humphrey.....	New Hope.
Mills, Grover Cleveland.....	Kenton.
Mosby, William Eugene.....	Bardwell.
Nunnelley, Samuel Philip.....	Lexington.
Payne, Howard.....	Cold Spring.
Perkins, Charles Fred.....	Wheatley.
Rankins, Grover Cleveland.....	Mt. Olivet.
Reid, Eleanora.....	Edmonton.
Sanders, Hugh Berkley.....	Kirkwood.
Smith, Guy Warren.....	Muir.
Smith, Hal Walker.....	Henderson.
Staples, Frederick William.....	Lexington.
Swope, William Morgan.....	East Hickman.
Taylor, Creed Lyle.....	Harrodsburg.
Tuttle, James Newton.....	Spears.
Wakefield, Joseph Morry.....	Wakefield.
White, Robert Roy.....	Manchester.
Wickersham, John Thomas.....	Lebanon Junction.
Willmott, Curtis Simeon.....	Lexington.

Students of the Summer School.

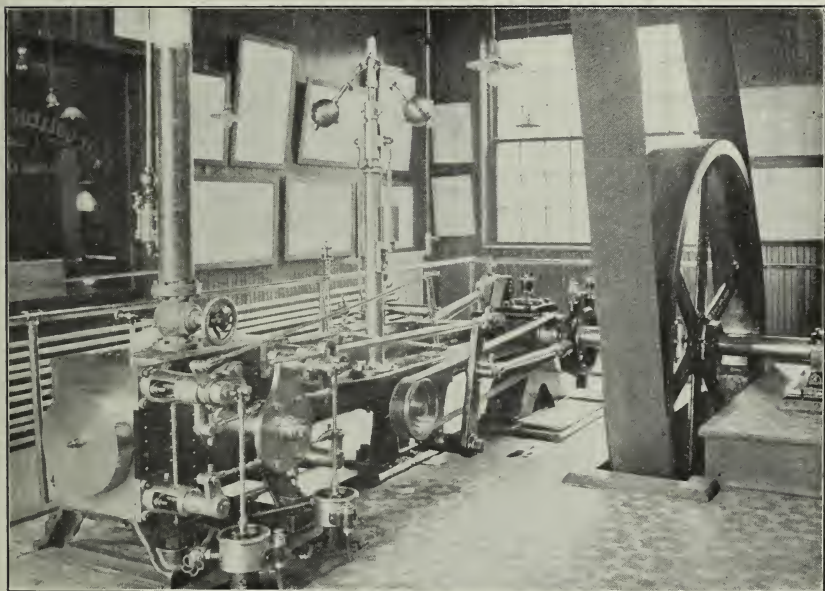
1. IN THE NORMAL SCHOOL.

Arnett, Richard Hood.....	Troy	Woodford.
Averitt, Richard Garland.....	Milton	Trimble.
Bruce, Eva Lena.....	Winchester	Clark.
Fightmaster, Earl.....	Sadieville	Harrison.
Givens, Sallie Tevis.....	Middlesboro	Bell.
Gregory, Ella.....	Cloverport	Breckinridge.
Hardesty, Katie.....	Muir	Fayette.
Hargett, Andrew Jackson.....	Augusta	Bracken.
Henry, Maude.....	Falmouth	Pendleton.
Hensley, Eula.....	Hardinsburg	Breckinridge.
Hoffmeier, Elizabeth.....	Ludlow	Kenton.
Jackson, Willie.....	Hopkinsville.	Christian.
Jarboe, Mary.....	Cloverport	Breckinridge.
Livers, Maude.....	Samuels	Nelson.
Long, Elizabeth.....	Falmouth	Pendleton.
McHargue, Barbara Susan.....	Morris	Minnesota.
*McHargue, James Spencer.....	Boreing	Laurel.
McKee, Hugh Crockett.....	Frankfort	Franklin.
Miller, Frances.....	Covington	Kenton.
Moore, Alice.....	Lexington	Fayette.
Munday, Sally.....	Winchester	Clark.
Saxton, Willie.....	Lexington	Fayette.
*Schoene, Charles Edgar.....	Henderson	Henderson.
Thurman, Rice.....	West Point.....	Hardin.
Tyler, William Tecumseh.....	Campton	Wolfe.
Van Gorder, Nellie.....	Middlesboro	Bell.
Vice, Elza Curtis.....	Williamstown ...	Grant.
Wroe, Edmund.....	Cloverport	Breckinridge.

2. IN MECHANIC ARTS.

Arnold, L. L.....	Bagdad.
Bird, R.....	Lexington.
Bryan, D. B.....	Lexington.
Darnall, F. K.....	Helena.
Dietrich, K. L.....	Hopkinsville.
DuValle, R. P.....	Stamping Ground.
Edwards, D.....	Cincinnati, O.
Falley, C. B.....	Terre Haute, Ind.
Forbes, J. M.....	Hopkinsville.

*Students also of the College.



ENGINE ROOM.

Kinkead, D. C.....	Lexington.
Muncy, V. E.....	Lexington.
Riefkin, P.....	Newport.
Samuels, R. L.....	Maysville.
Thomas, M. F.....	Stillwater, Ok.
Trice, J. B.....	Hopkinsville.
Verkes, L.....	Lexington.

3. IN PHYSICS.

Caywood, C. P.....	Ewing.
Forbes, J. M.....	Hopkinsville.
Grady, W. H.....	Trenton.
Powell, M. W.....	Hickman.
Prather, H. L.....	State Line.
Riefkin, P.....	Newport.
Shannon, P. F.....	Lexington.
Steele, A. W.....	Yarnallton.

4. IN CHEMISTRY.

Dodd, Minnie Lee.....	Louisville.
McClelland, Mary.....	Lexington.
McHargue, James Spencer.....	Boreing.
Woerner, Emma Josephine.....	Louisville.

5. IN LIBERAL ARTS.**COLLEGE STUDENTS.**

Anderson, Lee.....	Lexington.
Bryan, Ruth Mitchell.....	Lexington.
Buchanan, Allie Stout.....	Fayne's Depot.
Dodd, Minnie Lee.....	Louisville.
Drake, Jimmie.....	Lexington.
Elam, Shelby Smith.....	Elam.
Estill, David Chenault.....	Lexington.
Forbes, James.....	Hopkinsville.
Goodwin, William Ingram.....	Lexington.
Hardin, Guy Aud.....	Brandenburg.
Hudson, William Edward.....	Godfrey.
Jones, Sadocia Connellee.....	Porter.
Lewis, Leo Logan.....	Lexington.
Mahan, Charles Alfred.....	Hyattsville.
Mahoney, Elizabeth Margaret.....	Lexington.
Mathis, Charles Brothers.....	Lexington.
Nuchols, Amanda Jane.....	Lexington.
Phillips, Marie Ingram.....	Lexington.
Rodes, Allen Higgins.....	Lexington.
Seearce, James Boyd.....	Lexington.

Schoene, William Jay.....	Henderson.
Steele, Arthur Winslow.....	Yarnallton.
Taylor, Hugh Wilbur.....	Lewisport.
Terrill, Robert Craig.....	Bedford.
Walsh, Robert Bright.....	Boyd.
Weaver, Walter Simeon.....	Bronston.
Woerner, Emma Josephine.....	Louisville.

ACADEMY STUDENTS.

Barbee, George Read.....	Lexington.
Barbee, Richard Carroll.....	Lexington.
Bean, Harry Campbell.....	Lexington.
Bean, Louis Vimont.....	Lexington.
Cabrera, Peter.....	Managua, Nic.
Clay, Roby Wornali.....	Lexington.
Coons, William Lester.....	Montrose.
Dean, Willis Johnson.....	Owensboro.
Fields, Melvin Green.....	Lexington.
Fried, Sienna Katherine.....	Lexington.
House, Charles Bland.....	Manchester.
Hutchcraft, David Keller.....	Lexington.
Kirk, Estill.....	Philpot.
McClellan, Mary.....	Lexington.
McCutcheon, Jesse Robert.....	Beattyville.
McKee, Hugh.....	Frankfort.
McNamara, William Ignatius.....	Lexington.
Proctor, Bennett McCreary.....	Lexington.
Simpson, Lawrence.....	Avon.
Van Meter, Margaret Lewis.....	Lexington.
Wegner, Frank August.....	Lexington.
White, Beverly Pryor.....	Lexington.
White, Octo.....	Lexington.

Summary.

Collegiate Students	Scien- tific	Class- ical	Civ. Eng.	Mech. Eng.	Min. Eng.	Nor- mal	Agri- cult	Class Totals
Post-Graduates	10	8	..	15	1	..	1	35
Seniors	8	10	11	29	2	..	4	64
Juniors	12	16	12	34	2	2	3	81
Sophomores	8	14	31	38	..	3	7	100
Freshmen	19	26	21	56	2	5	3	132
Department Totals..	57	74	75	172	7	10	18	412

Collegiate students.....	412
Not regularly classified.....	1
Normal students.....	87
Students of the Academy.....	99
Students of the Summer Schools.....	106

Total..... 705

Regulations.

PUBLIC EXERCISES.

All exercises assigned for commencement or any other public occasion must be submitted to the President for approval at least one week before the time for the performance; and, if any student shall deliver an address, or part of an address, which has not been approved by the President, his diploma and his degree, if any has been awarded, may be withheld.

TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from his home to the College and return paid by the College on the following conditions:

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2d. He must travel from home to the College by the shortest, least expensive, and the most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year a good moral character, and such class standing as will enable him to pass all final examinations.

8th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing conditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers shall pay to the appointee the amount shown by the receipts aforesaid, and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule, the less pocket-money allowed by parents or guardians, the better it is for the pupil. When supplies of pocket-money are kept short, the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All moneys intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory, the necessary expenses are as follows:

Tuition free.....	\$00 00
Matriculation free.....	00 00
Gymnasium free.....	00 00
Room rent free.....	00 00
Use of furniture.....	2 50
Washing, about.....	10 00
Uniform	16 00
Books, about.....	10 00
Total.....	<u>\$38 50</u>

Board in clubs, \$2 per week; in families, \$3 to \$4. For students not county appointees the necessary expenses are:

Tuition for Mechanical, Civil, Electrical and Mining Engineering	\$40 00
Tuition for Classical, Scientific and Normal School Courses	25 00
Matriculation fee.....	5 00
Gymnasium fee.....	5 00
For each laboratory, fee.....	5 00
Washing, about.....	10 00
Room and furniture.....	6 50
Uniform	16 00
Books, about.....	10 00

Board in clubs, about \$2.00 per week; in families, \$3.00 to \$4.00. All who occupy rooms in the dormitories make a deposit of \$5.00 to cover damage done during their occupancy. This is refunded at the close of the year, less the amount of damage assessed against the depositor.

Board and lodging are provided in Patterson Hall for young women, at \$3.00 per week, they furnishing their own bed clothes and towels. This handsome three-story building, a fourth of a mile from the College, can accommodate 125 students.

DIPLOMA.

By order of the Board of Trustees, a fee of \$5.00 will hereafter be charged for each diploma issued by the College.

FREE TUITION, BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year to this College, free of charge for tuition.

[A statement for the guidance of County Superintendents: 1. If the county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition. 2. If a Legislative Representative District embraces more than one county, each county is entitled to keep four students in the College and four in the Normal School free of tuition.]

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent, who from the data thus furnished selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One appointment is made each year.

Appointments are made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientific, Classical, and Normal Collegiate courses, are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1901-2 one appointment to the College; for the session of 1902-3 two appointees; for the session of 1903-4 three appointees; for the session of 1904-5 four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrance examination at the College on the subjects comprising all that is embraced in Arithmetic, English Grammar, Geography, and United States History in the common school course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the common school course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the College on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from the payment of fees.

APPOINTEES TO THE NORMAL COURSE.

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz.: upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an entrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the Common Schools of Kentucky for as many months as they receive for tuition.

SPECIAL COURSES OF STUDY.

Special courses of study are not provided for in the Academy, the Normal School, or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

CHANGE OF CLASSIFICATION.

No student shall be allowed to change his or her course of study from one department of the College to another, until he or she shall have completed and passed a satisfactory examination on each subject hitherto studied in the department of which he or she is a matriculate; and no change of courses shall be permitted during the current year.

ACCREDITED SCHOOLS.

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examinations to the College when the heads of these schools have complied with certain conditions.

Further, the Board of Trustees have made an annual award of a free scholarship to the pupil in each accredited school who has completed the certified course with the highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended:

PUBLIC HIGH SCHOOLS.

Ashland, J. C. Crabbe, Superintendent.
Augusta, J. R. Sterrett, Superintendent.
Bellevue, John Maddox, Superintendent.
Carlisle, W. F. Ramey, Superintendent.
Carrollton, B. F. Gabby, Superintendent.
Catlettsburg, M. P. Helm, Superintendent.
Corydon, Barksdale Hamlet, Superintendent.
Covington, Chas. Merry, Superintendent.

Cynthiana, C. A. Leonard, Superintendent.
 Dayton, ———, Superintendent.
 Dixon, S. G. Boyd, Superintendent.
 Elizabethtown, E. E. Olcott, Superintendent.
 Elkton, Henry L. Trimble, Superintendent.
 Eminence, J. C. Gordon, Superintendent.
 Falmouth, E. B. Buffington, Superintendent.
 Finchville, B. A. Logan, Superintendent.
 Flemingsburg, T. A. Luman, Superintendent.
 Frankfort, Hugh Crockett, Superintendent.
 Fulton, J. C. Cheek, Superintendent.
 Greenup, George W. Chapman, Superintendent.
 Greenville, W. O. Belcher, Superintendent.
 Harrodsburg, C. W. Bell, Superintendent.
 Henderson, Livingston McCartney, Superintendent.
 Hickman, A. R. Boone, Superintendent.
 Hopkinsville, J. B. Taylor, Superintendent.
 Horse Cave, Moses E. Wood, Superintendent.
 Kenilworth (Ill.), Edward Manlay, Superintendent.
 Lancaster, J. E. Mannix, Superintendent.
 Lawrenceburg, H. V. Bell, Superintendent.
 Lexington, M. A. Cassidy, Superintendent.
 Louisville, E. H. Marks, Superintendent.
 Female High School, W. H. Bartholomew, Principal.
 Male High School, R. P. Halleck, Principal.
 Manual Training High School, E. P. Chapin, Principal.
 Ludlow, Frank Appel, Superintendent.
 Marion, Charles Evans, Superintendent.
 Mayslick, W. M. Chandler, Superintendent.
 Maysville, ——— Clinger, Superintendent.
 Middlesboro, M. O. Winfrey, Superintendent.
 Midway, W. R. Eubank, Superintendent.
 Morganfield, A. C. Burton, Superintendent.
 Mt. Sterling, H. M. Gunn, Superintendent.
 Newport, John Burk, Superintendent.
 Nicholasville, R. G. Lowrey, Superintendent.
 Orange (N. J.), W. M. Swingle, Superintendent.
 Owensboro, McHenry Rhoads, Superintendent.
 Owenton, W. E. Williams, Superintendent.
 Paducah, C. M. Lieb, Superintendent.
 Paris, J. A. Sharon, Superintendent.
 Pembroke, C. E. Dudley, Superintendent.
 Richmond, Caldwell High School, W. H. Brock, Superintendent.
 Somerset, J. P. W. Brouse, Superintendent.
 Versailles, W. F. Pate, Superintendent. ..
 West Point, Miss Rice Thurman, Superintendent.
 Williamstown, W. G. Welborn, Superintendent.
 Winchester, R. M. Shipp, Superintendent.

PRIVATE ACADEMIES, COLLEGIATE INSTITUTES.

Auburn, Auburn Seminary, Charles B. Bates, Principal.
 Bagdad, Shelby Institute, Misses Scarce, Principals.
 Bardstown, Nelson Normal High School, E. H. Crawford, Principal.
 Campbellsburg, High School, J. W. Percy, Principal.
 Cynthiana, Classical School, Mr. Selin, Principal.
 Danville (Va.), Military Institute, Campbell and Snyder, Principals.
 Elkton, Vanderbilt Training School, J. H. Harrison, Principal.
 Fulton, Carr Institute, T. N. Wells, Principal.
 Harrodsburg Academy, W. W. Ensminger, Principal.
 Hartford College and Business Institute, L. N. Gray, President.

Hazel Green, Academy, Wm. H. Cord, Principal.
 Hodgenville, Kenyon College, J. C. Pirtle, President.
 Jetts Academy, Mrs. Mary Crutcher, Principal.
 Knoxville (Tenn.), Baker-Himel School, Norman H. Pittman, Principal.
 Leitchfield, High School and Business Institute, W. C. Losey, Principal.
 Lexington, Private School, Miss Ella Williams, Principal.
 Lexington, Private School, Miss Lucy S. Collier, Principal.
 Lexington, Alleghen Academy, A. N. Gordon, Principal.
 Louisville, St. Xavier's College, Bro. James, Principal.
 Louisville, University School, W. H. Tharp, Head Master.
 Louisville, School for Boys, Davenport and Patterson, Principals.
 Maysville, Private School, Fannie I. Gordon, Principal.
 Middleburg, Normal College, J. S. Lawhorn, Principal.
 Millersburg, Military Institute, C. M. Best, Principal.
 Mt. Sterling, Goodwin's High School, M. J. Goodwin, Principal.
 Nicholasville, Jessamine Institute, ————, Principal.
 Nicholasville, School for Boys, T. B. Threlkeld, Principal.
 Richmond, Madison Institute, J. W. McGarvey, Principal.
 Stanford, ————, Principal.
 Stanford, Male and Female Academy, O. B. Fallis, Principal.
 Versailles, Training School, W. O. Vaught, Principal.
 Versailles, Ashland Seminary, Miss Hogeboom, Principal.
 Williamsburg, Williamsburg Institute, Dr. E. E. Wood, President.
 Williamsburg, Williamsburg Academy, Prof. Hill, Principal.
 Educational Department Y. M. C. A., George B. Hodge, Secretary.

Upon application, printed forms will be sent to the heads of schools who may desire to have them placed in the list of the accredited schools. These forms are to be filled out with an announcement of the courses of study and mailed to the Chairman of the Committee on Accredited Schools at the State College.

Only pupils from duly accredited schools will be admitted to the College without examination, and *they* must present a certificate from their superintendent or principal and it must bear the signature of the President of the State College.

Every pupil who completes an accredited course is entitled to a certificate attesting the fact, and heads of schools in the foregoing list will oblige the College Committee on Accredited Schools by sending promptly their recommendations for certificates and scholarships.

MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold: To put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not remunerative to the College.

The College assumes no obligation to furnish students an opportunity to labor for compensation.

Students are paid monthly for the service rendered, and apply the money as they see proper.

No student, however, should come to this College expecting to maintain

himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of every student who wishes to avail himself of the advantages of the system of compensated labor.

CERTIFICATES OF CHARACTER.

All applicants for admission into any class of the College or Academy must bring satisfactory testimonials of good moral character.

THE MONITRESS.

The young women who attend the College have assigned for their exclusive use a large and well-appointed study-room. Here, while they are not engaged in the class rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has long been connected with the College and is well qualified for her duties.

ENLISTMENT OF CADETS.

By a resolution of the Faculty, approved by the Board of Trustees, no cadet of the State College is allowed to enlist in the State Guards.

RULES OF CLASSIFICATION.

1. No student shall be considered as belonging to a given class, unless he takes at least three studies selected in that class or in a higher.
2. No student shall pass into a higher class while he has to make up studies required of him in the preceding year.
3. Students may be permitted, by the Deans of their courses and the Professors with whom they take their major studies, to register for studies not more than one year in advance of their classification.

Calendar.

1905.

Summer Schools open..... from June 5th to Aug. 25th.
 Entrance Examinations begin..... Monday, Sépt. 11th.
 First Term begins..... Thursdays, Sépt. 14th.
 Thanksgiving..... Thursday, Nov. 30th.
 Board of Trustees meet..... Tuesday, Dec. 12th.
 Christmas Holidays begin..... Friday, Dec. 22d.

1906.

Second Term begins..... Tuesday, Jan. 2d.
 Second Term of Academy begins..... Monday, Jan. 22d.
 Washington's Birthday..... Thursday, Feb. 22d.
 Union Society Contest..... Thursday, Feb. 22d.
 Third Term begins..... Monday, March 12th.
 Patterson Society Contest..... Monday, March 26th.
 Final Examinations begin..... Monday, May 28th.
 Board of Trustees meet..... Tuesday, June 5th.
 Class Day..... Wednesday, June 5th.
 Alumni Banquet..... Wednesday, June 6th.
 Commencement..... Thursday, June 7th.

The State College Summer Schools.

FOR 1906.

These five Schools, which offer more than thirty courses of instruction, through text-books, lectures, and the best laboratories in the State, afford teachers, college students and those who are preparing for college, a rare opportunity for inexpensive study.

I. THE SCHOOL OF CHEMISTRY.

PROFESSOR KASTLE.

Courses Offered—Historical and Theoretical Chemistry, taught by lectures and recitations, and the following taught chiefly by work in the laboratory: General Inorganic Chemistry, the Chemistry of the Metals, Qualitative and Quantitative Analysis, Organic Chemistry, and Chemical Research.

The courses will begin June 12th and end July 29th. Fee, \$10.00 for each course.

II. THE SCHOOL OF PHYSICS.

PROFESSOR PENCE.

Courses—1. A course in elementary text-book Physics, with lectures and recitations, fully illustrated by experiments. 2. A course in the laboratory, as given in Gage's Physical Experiments. 3. Properly prepared students may take more advanced work, either in reading and the lecture course, or in the laboratory, work corresponding to that of the Junior or Senior year of the College in Heating, Electricity and Magnetism.

The Department has abundant apparatus and a good library.

The courses will extend from June 12th to July 21st.

Fee for course 1, \$10.00; for course 2, \$12.00; for both, \$20.00.

III. THE SCHOOL OF MECHANIC ARTS.

PROFESSORS ANDERSON AND FAIG.

Instruction will be given specially in Mechanical Drawing, Steam Engineering, Applied Electricity, Machine Design, Materials of Construction, Transmission of Force, and Shop Work.

The courses are designed for Machinists, Carpenters, Metal Workers, Engineers, Firemen, Superintendents of Electric Light Plants or of public buildings having power plants, artisans of all classes, and especially for young men who intend to take up engineering, or for high-school and other students who may wish to shorten or to lighten the work of the four years' course in college.

Students admitted without examination.

The session begins June 12th and ends Aug. 15th. Fee, \$25.00.

For full information, address the Registrar,

JOHN T. FAIG, Lexington, Ky.

IV. THE SCHOOL OF TEACHERS.

PROFESSOR MILFORD WHITE.

The Third Session will open June 7th and close July 20th.

The work is designed specially to prepare teachers for examination for the County Certificate, the State Certificate, and the State Diploma.

A special examination for the State Certificate will be held at the close of the term.

Teachers of long and successful experience will have charge of all the classes. Fee for the course, \$6.00.

For bulletin of information, address the Director,

MILFORD WHITE, Lexington, Ky.

V. THE SCHOOL OF LIBERAL ARTS.

PROFESSORS DAVIS AND JONES.

The session extends from June 5th through two terms of six weeks each. The purpose of this School is to help students—

1. Remove conditions from their work in the College.
2. Even up work neglected through irregular classification.
3. Shorten or lighten their work in the College.
4. Prepare for the entrance examination in September.
5. Review their studies in accredited schools.

The instruction embraces—

1. The College courses in Mathematics, Astronomy, English, Greek, Latin, French, German, Spanish and History.

2. The Academy courses in all the subjects preparatory to either year of the Academy or the Freshman class of the College.

Last summer instruction was given in all these subjects, and more than four-fifths of our students passed.

Students prepared for any college or university.

Fee for each subject, in advance, \$7.50.

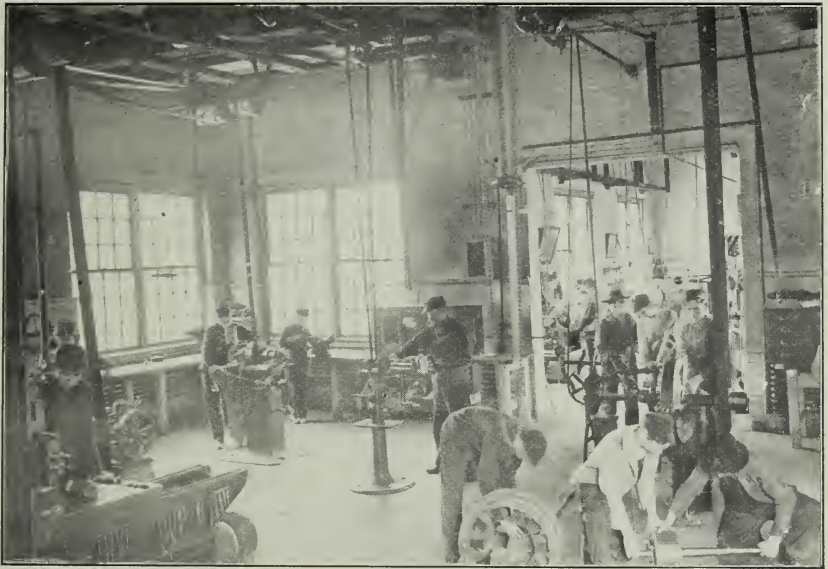
For bulletin of information, address

J. MORTON DAVIS or T. T. JONES, Lexington, Ky.

College Directory.

	RESIDENCE.	COLLEGE QUARTERS.
Allen, Robert M.....	251 S. Limestone.....	Experiment Station.
Anderson, F. Paul.....	147 Kentucky Avenue...	Mechanical Hall.
Averitt, Saxe D.....	129 E. Maxwell.....	Experiment Station.
Blackburn, Mrs. Lucy B....	630 Central Avenue.....	14, First Floor, College.
Brooks, John P.....	231 N. Broadway.....	Second Floor, Mech. Hall.
Burt, Wilson B.....	Patterson Hall.....	Gymnasium.
Campbell, Walter G.....	494 S. Limestone.....	Experiment Station.
Curtis, Henry E.....	116 E. Maxwell.....	Experiment Station.
Davis, J. Morton.....	20 Park Place.....	1, Basement, College.
Dean, Robert H.....	222 Arlington Avenue...	Weather Bureau, College.
Dicker, Joseph.....	28 Virginia Avenue....	Mechanical Hall.
Didlake, Miss Mary L.....	481 E. Main.....	Experiment Station.
Faig, John T.....	750 W. Main.....	Mechanical Hall.
Frazer, D. C.....	129 E. Maxwell.....	13, First Floor, College.
Garman, Harrison.....	638 S. Limestone.....	Experiment Station.
Harper, Joseph N.....	S. Rose Street.....	College Farm.
Hodges, Miss Harriette....	Patterson Hall.....	10, First Floor, College.
Johnson, James R.....	S. Rose.....	6, Basement, College.
Jones, Theodore T.....	600 S. Rose.....	20, Third Floor, College.
Kastle, Joseph H.....	301 W. High.....	Experiment Station.
Keller, George N.....	659 S. Limestone.....	Experiment Station.
Kinhead, Miss Elizabeth....	W. Second.....	Chapel.
LaBach, James O.....	270 S. Limestone.....	Experiment Station.
Logan, J. Lewis.....	402 S. Broadway.....	2, Basement, College.
Mackenzie, A. St. Clair....	Reed Hotel.....	19, Second Floor, College.
Mathews, Clarence W.....	660 S. Limestone.....	First Floor, Science Hall.
Miller, Arthur M.....	609 S. Limestone.....	First Floor, Science Hall.
Milligan, Richard A.....	492 S. Limestone.....	Mechanical Hall, rear.
Muncy, Victor E.....	136 E. Maxwell.....	18, Second Floor, College.
Mustaine, W. W. H.....	327 S. Limestone.....	Gymnasium, First Floor.
Neville, John H.....	722 W. Main.....	21, Third Floor, College.
Norwood, Charles J.....	147 E. Third.....	Science Hall, Third Floor.
Patterson, James K.....	President's House.....	12, First Floor, College.
Patterson, Walter K.....	President's House.....	17, Second Floor, College.
Pence, Merry Lewis.....	108 Merino	5, Basement, College.
Peter, Alfred M.....	268 E. Maxwell.....	Experiment Station.
Pryor, Joseph W.....	408 W. Third.....	Science Hall, Second Floor.
Roark, Ruric N.....	628 S. Limestone.....	11, First Floor, College.
Scherffus, William H.....	149 Washington Avenue.	Experiment Station.
Scovell, Melville A.....	College Farm.....	Experiment Station.
Shedd, Oliver M.....	450 S. Broadway.....	Experiment Station.
Spillman, Asher G.....	347 S. Mill.....	Second Floor, Science Hall.
Stout, Mrs. Florence Offutt.	Versailles, Ky.....	Second Floor, Gymnasium.
Turner, Job D.....	267 S. Limestone.....	Experiment Station.
Wallis, Mrs. Caroline E.....	.....	Patterson Hall.
Wernicke, Paul.....	609 S. Limestone.....	18, Second Floor, College.
White, James G.....	158 E. Maxwell.....	15, First Floor, College.
White, Miss Martha R.....	158 E. Maxwell.....	1, Basement, College.
White, Milford	119 Washington Avenue.	9, First Floor, College.
Wilson, Alexander M.....	609 S. Limestone.....	Mechanical Hall.

APPENDIX.



MACHINE SHOP.

*United States Department of Agriculture,***OFFICE OF EXPERIMENT STATIONS—***Circular No. 61.*

A. C. TRUE, Director.

**STATISTICS OF LAND-GRANT COLLEGES AND AGRICULTURAL
EXPERIMENT STATIONS, 1904.**

Compiled by Miss M. T. SPETHMANN.

The following statistical statements relating to the institutions established under the acts of Congress of July 2, 1862, and August 30, 1890, and to the agricultural experiment stations, which, with a few exceptions, have been organized under the act of Congress of March 2, 1887, and are conducted as departments of the institutions receiving the benefits of the land-grant act of July 2, 1862, are abstracts of statistics which will be published later in the Annual Report of the Office of Experiment Stations. They have been compiled in part from replies to a circular of inquiry sent out from this office and in part from the annual reports of the presidents of these institutions made on the schedules prescribed by the Commissioner of Education.

SUMMARY OF STATISTICS OF LAND GRANT COLLEGES.

Educational institutions receiving the benefits of the acts of Congress of July 2, 1862, and August 30, 1890, are now in operation in all the States and Territories except Alaska, Hawaii, and Porto Rico. The total number of these institutions is sixty-five, of which sixty-three maintain courses of instruction in agriculture. The aggregate value of the permanent funds and equipment of the land-grant colleges and universities in 1904 is estimated to be as follows: Land-grant fund of 1862, \$11,765,406.13; other land-grant funds, \$3,123,913.49; other permanent funds, \$12,489,036.82; land grant of 1862 still unsold, \$4,310,249.48; farm and grounds owned by the institutions, \$5,853,987.98; buildings, \$24,972,905.97; apparatus, \$2,021,418.93; machinery, \$1,988,440.82; libraries, \$2,347,347.95; live stock, \$306,485.64; miscellaneous equipment, \$3,361,394.90; total, \$72,540,588.11. The income of these institutions in 1904, exclusive of the funds received from the United States for agricultural experiment stations (\$719,999.67), was as follows: Interest on the land grant of 1862, \$730,001.58; interest on other land grants, \$85,134.65; United States appropriation under act of 1890, \$1,200,000; interest on endowment or regular appropriation, \$1,074,605.22; State appropriation for current expenses, \$2,332,485.56; State appro-

priation for buildings or other special purposes, \$2,210,811.39; endowment, other than Federal or State grants, \$680,123.23; tuition fees, \$1,041,692.48; incidental fees, \$395,424.27; miscellaneous, \$1,748,062.97; total, \$11,498,341.35. The value of the additions to the permanent endowment and equipment of these institutions in 1904 is estimated as follows: Permanent endowment, \$638,600.10; buildings, \$1,956,268.39; libraries, \$142,768.38; apparatus, \$139,465.95; machinery, \$143,382.94; live stock, \$67,509.04; miscellaneous, \$133,978.73; total, \$3,221,-973.53.

The number of persons in the faculties of the colleges of agriculture and mechanic arts was as follows: For preparatory classes, 372; for collegiate and special classes, 2,160; total, 2,740. In the other departments the faculties aggregated 1,575, making a grand total of 4,315 persons in the faculties of the land-grant institutions. The students in 1904 were as follows: (1) By classes—preparatory, 10,019; collegiate classes, 21,237; short course or special, 6,157; post-graduate, 565; other departments, 18,783; total, 56,226. (2) By courses: *Four-year*—agriculture, 4,436; horticulture, 636; household economy, 3,607; mechanical engineering, 4,435; civil engineering, 3,353; electrical engineering, 2,708; mining engineering, 931; chemical engineering, 273; architecture, 227. *Shorter*—agriculture, 5,281; dairying, 735; horticulture, 112; veterinary science, 834; military tactics, 18,377. The graduates in 1904 were 4,822, and since the organization of these institutions, 57,909. The average age of graduates in 1904 was 21 years and 10 months. The total number of volumes in the libraries was 1,927,045. The total number of acres of land granted to the States under the act of 1862 was 10,145,169, of which 897,142 are still unsold.

SUMMARY OF STATISTICS OF STATIONS.

Agricultural experiment stations are now in operation under the act of Congress of March 2, 1887, in all the States and Territories, and under special appropriation acts in Alaska, Hawaii, and Porto Rico.

In Connecticut, New Jersey, New York, Hawaii, Missouri, Alabama, and Louisiana separate stations are maintained wholly or in part by State funds. A number of substations are also maintained in different States. Excluding the substations, the total number of stations in the United States is sixty. Of these, fifty-five receive appropriations provided for by acts of Congress.

The total income of the stations maintained under the act of 1887 during 1904 was \$1,508,820.25, of which \$719,999.67 was received from the National Government, the remainder, \$788,820.58, coming from the following sources: State governments, \$522,391.89; individuals and communities, \$7,300; fees for analyses of fertilizers, \$94,070.82; sales from farm products, \$110,359.43; miscellaneous, \$54,698.44. In addition to this the Office of Experiment Stations had an appropriation of \$175,000 for the past fiscal year, including \$15,000 for the Alaska Experiment Stations, \$15,000 for the Hawaii Experiment Station, \$15,000 for the Porto Rico Experiment Station, \$20,000 for nutrition investigations, \$65,000 for irrigation investigations, and \$5,000 for farmers' institutes. The value of additions to the equipment of the stations in 1904 is estimated as follows: Buildings, \$168,087.44; libraries, \$12,859.04; apparatus, \$29,996.77; farm

implements, \$18,360.68; live stock, \$34,065.94; miscellaneous, \$30,081.82; total, \$293,451.69.

The stations employ 795 persons in the work of administration and inquiry. The number of officers engaged in the different lines of work is as follows: Directors, 54; assistant and vice-directors, 17; special agents in charge, 3; chemists, 163; agriculturists, 47; agronomists, 41; animal husbandmen, 46; poultrymen, 8; horticulturists, 76; farm and garden foremen, 30; dairymen, 35; botanists, 55; plant pathologists, 7; entomologists, 59; zoölogists, 4; veterinarians, 29; meteorologists, 8; foresters, 4; mycologists, 3; biologists, 6; physicists, 6; geologists, 7; bacteriologists, 20; irrigation engineers, 11; in charge of substations, 28; secretaries and treasurers, 31; librarians, 13; clerks and stenographers, 42. There are also sixty-three persons classified under the head of "miscellaneous," including superintendents of grounds and buildings, gardeners, plant breeders, farm mechanics, cheese experimenters, etc. Four hundred and fourteen station officers do more or less teaching in the colleges with which the stations are connected. During the year the stations published 393 annual reports and bulletins, which were supplied to nearly 700,000 addresses on the regular mailing lists. A larger number of stations than formerly supplemented their regular publications with more or less frequent issues of press bulletins and other special publications, and most of the stations report a large and constantly increasing correspondence with farmers on a wide variety of topics.

STATISTICS OF THE LAND-GRANT COLLEGES AND UNIVERSITIES. ^a

TABLE 1.—General statistics of institutions established under the land-grant act of July 2, 1862.

[All of the institutions in this list, except those marked with an asterisk (*), maintain courses of instruction in agriculture.]

State or Territory.	Name of Institution.	Location	President.	Faculty.		
				College of agriculture and mechanic arts.	Other departments.	Experiment station officers.
Alabama	Alabama Polytechnic Institute	Auburn	C. C. Thach, M. A.	b 31	3	14
Arizona	Agricultural and Mechanical College for Negroes.	Normal	W. H. Council, Ph. D.	20	30	6
Arkansas	University of Arizona	Tucson	K. C. Babcock, Ph. D.	b 29		6
California	University of Arkansas	Fayetteville	H. S. Harvitzog, LL. D.	b 19	92	
Colorado	*Branch Normal College	Pine Bluff	Isaac Fisher	9		37
	University of California	Berkeley	B. I. Wheeler, Ph. D., LL. D.	56	153	
	The State Agricultural College of Colorado	Fort Collins	B. O. Aylesworth, M. A., LL. D., Litt. D.	b 41		15
Connecticut	Connecticut Agricultural College	Storrs	R. W. Stinson, M. A., D. B.	24		15
Delaware	Delaware College	Newark	G. A. Harter, M. A., Ph. D.	19		6
Florida	State College for Colored Students.	Dover	W. C. Jason, M. A., B. D.	b 7		
	University of Florida	Lake City	Andrew Sledge, A. M., Ph. D.	b 22	6	14
Georgia	Florida State Normal and Industrial School	Tallahassee	N. B. Young, M. A.	18	2	
	Georgia State College of Agriculture and Mechanic Arts	Athens	H. C. White, Ph. D.	14		
Idaho	University of Idaho	Moscow	R. R. Wright, M. A., LL. D.	23	4	10
Illinois	University of Illinois	Urbana	J. A. McLean, A. M., Ph. D.	174	175	33
Indiana	Purdue University	Lafayette	E. J. James, Ph. D., LL. D.	90	13	10
Iowa	Iowa State College of Agriculture and the Mechanic Arts	Ames	W. E. Stone, Ph. D.	101		35
Kansas	Kansas State Agricultural College	Manhattan	A. B. Storms, A. M., D. D., LL. D.	66	14	18
Kentucky	Agricultural and Mechanical College of Kentucky	Lexington	E. R. Nichols, M. A.	30	12	14
	The Kentucky Normal and Industrial Institute for Colored Persons	Frankfort	J. K. Patterson, Ph. D., LL. D.	10	5	
Louisiana	Louisiana State University and Agricultural and Mechanical College	Baton Rouge	J. S. Hathaway, M. A., M. D.	23	3	25
Maine	The University of Maine	New Orleans	T. D. Boyd, M. A., LL. D.	17		
Maryland	Maryland Agricultural College	Orono	H. A. Hill	b 45	13	12
Massachusetts	Princess Anne Academy	College Park	G. E. Fellows, M. A., Ph. D., LL. D.	20		15
	*Massachusetts Agricultural College	Amherst	R. W. Silverster	11		
	*Massachusetts Institute of Technology	Boston	Frank Trigg, M. A.	28		21
Michigan	Michigan State Agricultural College	Agricultural College	H. H. Goodell, LL. D.	186		
			H. S. Pritchett	70		11
			J. L. Snyder, M. A., Ph. D.			

Minnesota	The University of Minnesota	Minneapolis	Cyrus Northrop, LL. D.	b 94	213	15
Mississippi	Mississippi Agricultural and Mechanical College	Agricultural College	J. C. Hardy, M. A., LL. D.	34	15	12
Missouri	Alcorn Agricultural and Mechanical College	Westside	W. H. Lanier, B. A.	19		
	University of Missouri	Columbia	R. H. Jesse, LL. D.	62	65	21
Montana	Lincoln Institute	Jefferson City	B. F. Allen, M. A., LL. D.	21		
	The Montana State College of Agriculture and Mechanic Arts	Bozeman	J. M. Hamilton	b 30		11
Nebraska	The University of Nebraska	Lincoln	E. B. Andrews, LL. D.	78	173	17
New Hampshire	Nevada State University	Reno	J. E. Stubbs, M. A., D. D.	24		9
	The New Hampshire College of Agriculture and the Mechanic Arts	Durham	W. D. Gibbs, M. S.	21		12
New Jersey	Rutgers Scientific School, The New Jersey State College for the Benefit of Agriculture and the Mechanic Arts	New Brunswick	Austin Scott, Ph. D., LL. D.	b 40	3	21
New Mexico	New Mexico College of Agriculture and the Mechanic Arts	Mesilla Park	Luther Foster, M. S. A.	28		12
New York	Cornell University	Ithaca	J. G. Schurman, A. M., D. Sc., LL. D.	31	374	19
North Carolina	The North Carolina College of Agriculture and Mechanic Arts	Raleigh	G. T. Winston, M. A., LL. D.	39		14
	The Agricultural and Mechanical College for the Colored Race	Greensboro	J. B. Dudley, M. A.	b 12		
North Dakota	North Dakota Agricultural College	Agricultural College	J. H. Worst, LL. D.	b 33		15
Ohio	Ohio State University	Columbus	W. O. Thompson, DD., LL. D.	103	35	
Oklahoma	Oklahoma Agricultural and Mechanical College	Stillwater	A. C. Scott, M. A., LL. M.	23		11
	Agricultural and Normal University	Langston	I. E. Page, M. A.	12		
Oregon	Oregon State Agricultural College	Corvallis	T. M. Gatch, M. A., Ph. D.	33		11
Pennsylvania	The Pennsylvania State College	State College	G. W. Atherton, LL. D.	b 59		20
Rhode Island	Rhode Island College of Agriculture and Mechanic Arts	Kingston	K. L. Butterfield, A. M.	24		11
South Carolina	Clemson Agricultural College of South Carolina	Clemson College	P. H. Mell, M. E., Ph. D.	b 43	43	17
	The Colored Normal, Industrial, Agricultural and Mechanical College of South Carolina	Orangeburg	T. E. Miller, LL. D.	18	8	
South Dakota	South Dakota Agricultural College	Brookings	James Chalmers, Ph. D.	39		17
Tennessee	University of Tennessee	Knoxville	Brown Ayres, Ph. D., LL. D.	47	45	9
Texas	Agricultural and Mechanical College of Texas	College Station	D. F. Houston, M. A., LL. D.	36		12
	Prairie View State Normal and Industrial College	Prairieview	E. L. Blackshear	11	7	
Utah	Agricultural College of Utah	Logan	W. J. Kerr, D. Sc.	50		15
Vermont	University of Vermont and State Agricultural College	Burlington	M. H. Buckham, D. D., LL. D.	38	33	12
Virginia	The Virginia Agricultural and Mechanical College and Polytechnic Institute	Blacksburg	J. M. McBryde, Ph. D., LL. D.	56		18
	Hampton Normal and Agricultural Institute	Hampton	H. B. Frissell, D. D., LL. D.	135		
Washington	Washington Agricultural College and School of Science	Pullman	E. A. Bryan, M. A., LL. D.	51		12
West Virginia	West Virginia University	Morgantown	D. B. Purinton, Ph. D., LL. D.	45	19	15
	The West Virginia Colored Institute	Institute	J. McH. Jones, A. M.	17	17	
Wisconsin	University of Wisconsin	Madison	C. R. Van Hise, Ph. D.	76		23
Wyoming	University of Wyoming	Laramie	F. M. Tisdell, Ph. D.	b 24		9
Total				2,740	1,575	707

b Total, counting none twice.

a Including also institutions receiving apportionments from the appropriation of 1890.

STATE COLLEGE OF KENTUCKY.

TABLE 2.—Students, revenue, and additions to equipment for year ended June 30, 1904.

State or Territory.	Students.		Revenue.				United States appropriation for experiment stations.	Additions to equipment.
	Agriculture and mechanic arts.	Other departments.	Total.	Graduates in 1903-4.	Federal aid.	State aid.	Fees and all other sources.	Total.
Alabama (Auburn).....	480	.....	480	52	\$34,130.00	\$25,821.43	\$7,073.18	\$67,024.61
Alabama (Normal).....	481	.....	481	126	11,150.00	4,000.00	2,410.00	17,560.00
Arizona.....	205	.....	205	5	56,898.68	56,898.68	3,445.21	84,843.89
Arkansas (Fayetteville).....	814	.....	814	1,252	28,389.25	79,346.31	5,071.82	109,757.38
Arkansas (Pine Bluff).....	200	.....	200	7	6,818.18	5,025.00	435.00	12,278.18
California.....	1,003	2,303	3,306	365	73,710.00	567,746.06	289,463.13	980,919.19
Colorado.....	433	.....	433	22	34,968.12	75,410.21	8,926.68	119,305.01
Connecticut.....	183	.....	180	8	29,900.00	22,225.00	30,426.77	82,551.77
Delaware (Newark).....	125	.....	125	2	24,980.00	7,500.00	6,264.92	38,744.92
Delaware (Dover).....	78	.....	78	2	5,000.00	2,800.00	2,800.00	9,800.00
Florida (Lake City).....	229	.....	229	8	20,247.76	45,863.02	2,408.62	68,519.40
Florida (Tallahassee).....	163	.....	163	11	12,500.00	1,000.00	.....	13,500.00
Georgia (Athens).....	434	.....	434	13	33,620.80	.....	1,333.23	34,954.03
Georgia (College).....	360	.....	360	20	8,333.34	8,000.00	.....	16,333.34
Idaho.....	2,584	1,184	3,768	14	31,460.08	21,500.00	844.15	53,804.23
Illinois.....	1,440	.....	1,440	563	59,223.37	626,200.00	255,742.66	941,166.03
Indiana.....	1,968	17	1,985	120	42,000.00	147,701.64	54,216.46	243,918.10
Iowa.....	1,641	.....	1,641	99	66,176.83	221,080.01	47,149.72	334,406.56
Kansas.....	569	107	676	74	30,687.70	152,202.12	10,467.00	213,356.82
Kentucky (Lexington).....	151	22	173	9	30,019.50	36,830.32	4,234.05	71,083.87
Kentucky (Frankfort).....	438	.....	438	9	4,880.50	8,000.00	5,562.69	18,443.19
Kentucky (Baton Rouge).....	768	.....	768	27	27,206.92	25,825.54	9,510.31	62,542.77
Louisiana (New Orleans).....	474	71	545	58	12,348.77	10,000.00	767.99	23,116.76
Maine.....	180	.....	180	13	30,915.00	55,000.00	32,759.20	118,674.20
Maryland (College Park).....	220	.....	220	8	25,900.00	61,000.00	29,285.71	116,185.71
Maryland (Princes Anne).....	1,528	.....	1,528	180	5,000.00	.....	8,842.11	6,842.11
Massachusetts (Amherst).....	923	.....	923	221	20,316.66	22,919.19	3,636.19	46,872.04
Massachusetts (Boston).....	1,241	2,584	3,825	55	13,557.28	235,000.00	398,251.17	436,808.45
Michigan.....	709	.....	709	454	92,312.37	100,000.00	46,587.15	238,899.52
Minnesota.....	729	.....	729	31	550,353.46	150,353.46	152,869.38	551,151.61
Mississippi (Agricultural College).....	147	1,308	1,455	8	47,928.77	6,141,458.86	43,374.06	210,782.17
Mississippi (Westside).....	70	332	402	116	25,949.25	13,000.00	6,654.00	45,083.77
Missouri (Columbia).....	208	149	357	104	28,029.77	375,369.33	42,899.73	471,024.17
Missouri (Jefferson City).....	754	1,759	2,513	8	52,755.11	22,175.00	.....	29,737.50
Montana.....	218	.....	218	104	1,562.50	28,000.00	7,397.54	69,385.54
Nebraska.....	134	.....	134	156	33,988.00	28,000.00	.....	7,397.54
Nevada.....	330	.....	330	18	80,000.00	282,250.00	40,670.00	402,920.00
New Hampshire.....	378	.....	378	14	31,042.77	15,207.23	2,218.04	48,468.04
New Jersey.....	58	.....	58	14	29,800.00	17,500.00	21,532.95	68,332.95
New Mexico.....	224	.....	224	6	30,800.00	24,308.62	24,308.62	59,608.62
New Mexico.....	224	.....	224	4	25,000.00	13,456.66	3,416.61	41,873.27

New York	1,106	1,985	3,091	532	59,428.80	20,000.00	1,387,407.08	1,446,835.88	13,500.00	648,403.88
North Carolina (Raleigh)	858	.....	858	.....	24,250.00	7,500.00	29,337.52	73,337.52	15,000.00	7,861.99
North Carolina (Greensboro)	149	.....	149	6	8,250.00	.....	8,520.61	24,279.61	.....	814.56
North Dakota	720	.....	720	.....	47,648.32	29,178.82	6,555.30	83,682.44	.....	3,243.05
Ohio	999	.....	1,803	196	39,257.37	353,098.75	169,604.46	582,360.58	.....	163,352.21
Oklahoma (Stillwater)	420	.....	a 417	20	31,402.84	19,277.73	6,210.41	56,890.98	.....	7,414.55
Oklahoma (Langston)	271	.....	271	4	2,500.00	17,317.98	.....	19,317.98	.....	2,300.00
Oregon	530	.....	530	35	35,943.36	25,115.19	3,088.09	64,146.64	15,000.00	10,566.90
Pennsylvania	730	.....	2,830	71	50,637.43	130,785.34	55,763.35	237,192.12	15,000.00	271,000.00
Rhode Island	142	.....	142	3	27,500.00	22,000.00	2,345.76	52,045.76	15,000.00	1,693.01
South Carolina (Clemson College)	610	.....	610	98	18,254.00	127,437.44	14,009.76	159,701.20	15,000.00	47,403.38
South Carolina (Orangeburg)	711	.....	711	51	18,754.00	5,000.00	.....	23,254.00	15,000.00	524.00
South Dakota	519	.....	519	21	38,027.06	76,000.00	12,377.98	126,405.04	15,000.00	49,670.00
Tennessee	352	.....	705	32	48,960.00	.....	39,919.82	88,879.82	15,000.00	5,765.32
Texas	378	.....	378	36	33,030.00	190,000.00	.....	223,030.00	15,000.00	60,500.00
Texas (Prairie View)	312	.....	312	46	6,250.00	20,500.00	11,000.00	37,750.00	.....	4,200.00
Utah	596	.....	623	14	31,362.11	66,731.33	12,848.04	110,941.68	15,000.00	192,348.41
Vermont	348	.....	573	95	33,130.00	11,000.00	37,633.06	81,663.06	15,000.00	33,594.74
Virginia (Blacksburg)	727	.....	727	71	37,325.39	112,499.99	26,771.27	176,596.65	15,000.00	.....
Virginia (Hampton)	d 1,762	.....	1,762	61	18,662.69	67,500.00	165,572.50	184,235.19	.....	102,500.00
Washington	653	.....	653	61	25,000.00	125,327.95	17,856.00	110,356.00	15,000.00	20,173.64
West Virginia (Morgantown)	119	.....	991	51	26,553.00	21,600.00	62,131.06	214,012.01	15,000.00	16,303.00
West Virginia (Institute)	197	.....	197	11	5,000.00	471,500.00	1,900.00	28,500.00	.....	13,129.00
Wisconsin	1,456	.....	3,326	91	52,202.82	.....	185,226.26	708,928.58	15,000.00	71,897.03
Wyoming	125	.....	280	14	30,448.94	26,266.38	2,853.57	59,668.89	15,000.00	25,845.39
Total	37,378	18,783	56,226	4,822	2,015,136.23	5,017,902.17	3,865,302.85	11,498,341.35	695,999.67	3,221,973.53

c Including correspondence courses.

d Including summer institute.

a Total, counting none twice.
b Including appropriation for buildings and other special purposes for two years.

STATISTICS OF THE AGRICULTURAL EXPERIMENT STATIONS.

TABLE 3.—General statistics, revenue, and additions to equipment, 1904.

Station.	Location.	Director.	Num- ber on staff.	Num- ber of teach- ers on staff.	Publications during fiscal year 1903-4.		Number of ad- dresses on mail- ing list.	Revenue.			Additions to equip- ment.
					No.	Pages.		Hatch fund.	State.	Other sources.	
Alabama (College) ..	Auburn	J. F. Duggar, M. S.	14	10	5	195	12,500	\$15,000.00	.....	\$12,441.44	\$3,663.00
Alabama (Canebrake) ..	Uniontown	J. M. Richeson, M. S.	3	3	3	52	1,500	.....	\$2,500.00	800.00	5,500.00
Alabama (Tuskegee) ..	Tuskegee Institute	G. W. Carver	10	7	.....	.....	9	.....	1,500.00	.....	560.00
Arizona	Tucson	R. H. Forbes, M. S.	6	3	4	188	7,451	15,000.00	313.39	6930.96	1,144.58
Arkansas	Fayetteville	W. G. Vincenbeller	6	2	8	180	9,250	14,999.67	.....	863.83	15,863.50
California	Berkeley	E. W. Hilgard, Ph. D., LL. D.	37	19	12	447	9,200	15,000.00	6,139.91	11,624.06	915.97
Colorado	Fort Collins	L. G. Carpenter, M. S.	15	9	9	98	8,000	15,000.00	.....	1,313.39	32,703.97
Connecticut (State) ..	New Haven	E. H. Jenkins, Ph. D.	17	.....	3	565	12,000	7,500.00	15,500.00	.....	710.29
Connecticut (Storrs) ..	Storrs	E. A. Clinton, M. S.	15	10	6	314	9,000	7,500.00	.....	11,701.64	34,701.64
Delaware	Newark	A. T. Neale, Ph. D.	6	6	4	80	7,348	15,000.00	1,800.00	15.71	9,315.71
Florida	Lake City	Andrew Sledd, Ph. D.	14	8	5	152	3,718	15,000.00	.....	.....	1,428.26
Georgia	Experiment	R. J. Redding	7	1	4	96	13,000	15,000.00	757.96	1,722.21	16,722.21
Idaho	Moscow	H. T. French, M. S.	10	6	5	112	5,250	15,000.00	955.79	6,991.30	3,281.32
Illinois	Urbana	Eugene Davenport, M. Agt.	33	19	15	372	25,250	15,000.00	85,000.00	844.15	3,908.79
Indiana	Lafayette	Arthur Goss, M. S., A. C.	10	8	5	103	9,724	15,000.00	.....	2,416.72	17,416.72
Iowa	Ames	C. F. Curtis, M. S., A.	35	20	7	589	12,300	15,000.00	10,000.00	5,047.86	30,047.86
Kansas	Manhattan	J. T. Willard, M. S.	18	13	6	283	21,165	15,000.00	b 17,900.00	a 5,349.39	38,249.39
Kentucky	Lexington	M. A. Scovell, M. S.	14	1	7	488	9,000	15,000.00	a 10,208.18	a 28,583.29	53,791.47
Louisiana (Sugar) ..	New Orleans	W. R. Dodson, B. A., B. S.	25	3	5	156	15,000	15,000.00	20,000.00	a 24,230.65	59,230.65
Louisiana (State) ..	Baton Rouge	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Louisiana (North) ..	Calhoun	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maine	Orono	C. D. Woods, B. S.	12	4	12	276	9,000	15,000.00	.....	a 6,222.04	21,222.04
Maryland	College Park	H. J. Patterson, B. S.	15	9	9	159	14,000	15,000.00	5,000.00	4,610.54	24,610.54
Massachusetts	Amherst	H. H. Goodell, LL. D.	21	15	10	473	32,250	15,000.00	13,000.00	a 13,724.85	41,724.85
Michigan	Agricultural Col- lege	C. D. Smith, M. S.	11	5	17	831	35,000	15,000.00	b 5,500.00	a 8,315.98	28,815.98
Minnesota	St. Anthony Park	W. M. Liggett	15	7	4	317	13,500	15,000.00	b 25,362.88	b 10,205.74	60,568.62
Mississippi	Agricultural Col- lege	W. L. Hutchinson, M. S.	12	5	15	175	20,000	15,000.00	c 20,000.00	a 2,287.92	37,287.92
Missouri (College) ..	Columbia	H. J. Waters, B. S., A.	21	12	7	177	7,000	15,000.00	3,000.00	a 7,625.79	25,625.79
Missouri (Fruit) ..	Mountain Grove	Paul Evans	4	.....	3	57	4,500	.....	21,259.61	.....	21,259.61
Montana	Bozeman	F. B. Linfield, B. S., A.	11	10	10	378	3,996	15,000.00	24,011.71	3,871.02	42,882.73
Nebraska	Lincoln	E. A. Burnett, B. S., A.	17	13	6	250	20,740	15,000.00	.....	7,537.76	22,537.76
Nevada	Reno	J. E. Stubbs, M. A., D. D.	9	6	4	120	2,933	15,000.00	.....	807.98	15,807.98
New Hampshire	Durham	W. D. Gibbs, M. S.	12	7	8	132	13,000	15,000.00	.....	1,129.21	16,129.21
New Jersey (State) ..	New Brunswick	E. B. Voorhees, D. Sc.	13	2	.....	.....	.....	.....	26,000.00	.....	26,000.00
New Jersey (College) ..	..... do .....	.....	8	4	9	945	10,500	15,000.00	.....	.....	15,000.00

New Mexico.....	12	8	8	296	*3,000	15,000.00	.....	2,077.61	17,077.61	4,450.00
Mesilla Park.....	25	.....	.....	1,150	45,000	15,000.00	.....	.....	77,852.86	d 7,332.50
Geneva.....	19	18	9	198	12,000	13,500.00	.....	.....	36,832.34	1,900.00
Ithaca.....	14	8	4	120	26,000	15,000.00	.....	2,195.77	22,135.77	1,384.71
Raleigh.....	15	9	6	409	10,500	15,000.00	.....	4,730.30	20,480.30	1,422.23
Agricultural College, Iowa.....	22	.....	.....	80	45,000	15,000.00	.....	.....	90,916.67	12,116.15
Ohio.....	11	9	6	340	20,889	15,000.00	.....	a 14,085.22	766.43	766.43
Oklahoma.....	11	10	5	146	5,100	15,000.00	.....	a 2,598.67	19,020.45	553.05
Oregon.....	20	7	5	281	15,365	15,000.00	.....	1,708.13	16,708.13	1,481.07
Pennsylvania.....	11	5	8	320	10,000	15,000.00	.....	19,777.92	35,777.92	2,152.29
Rhode Island.....	17	11	10	173	11,000	15,000.00	.....	a 2,791.00	17,791.00	2,142.69
South Carolina.....	17	9	8	194	9,000	15,000.00	.....	3,815.10	18,815.10	2,877.00
South Dakota.....	9	8	5	104	11,050	15,000.00	.....	1,736.12	18,236.12	1,590.21
Tennessee.....	12	8	5	134	20,200	15,000.00	.....	5,523.96	20,523.96	1,675.71
Texas.....	15	9	7	238	6,000	15,000.00	.....	798.02	20,798.02	918.30
Utah.....	12	6	10	536	12,000	15,000.00	.....	a 488.59	15,488.59	3,235.01
Vermont.....	18	8	11	232	11,413	15,000.00	.....	2,348.47	19,010.50	211.83
Virginia.....	12	12	2	49	5,000	15,000.00	.....	191.90	15,216.90	986.05
Washington.....	15	6	6	207	8,700	15,000.00	.....	a 830.78	27,135.06	4,998.83
West Virginia.....	23	21	15	882	17,000	15,000.00	.....	12,135.06	35,800.00	14,028.51
Wisconsin.....	9	4	5	225	3,500	15,000.00	.....	1,800.00	17,108.57	4,371.55
Wyoming.....	.....	.....	.....	.....	.....	.....	.....	2,168.57	.....	.....
Total.....	795	414	393	15,083	685,301	719,969.67	522,391.89	266,428.69	1,508,820.25	293,451.68

^a Including balance from previous year.
^b Including substations.

^c For substations, including \$14,000 for McNeill substation for two years.
^d For year ended September 30, 1904.

Recommended for publication.

A. C. TRUE, *Director*.

Publication authorized.

JAMES WILSON, *Secretary of Agriculture*.WASHINGTON, D. C., *February 1, 1905*.

Appendix.

STATISTICS OF HIGHER EDUCATION IN THE UNITED STATES FOR 1902-1903.

(From the Report of the National Commissioner of Education.)

Number of students in 513 colleges and universities.....	114,130
(The 513 include 43 schools of technology.)	
In classical courses.....	51,152
In other culture courses.....	13,605
In general science.....	7,397
In mechanical engineering.....	6,800
In civil engineering.....	5,278
In electrical engineering.....	3,652
In chemical engineering.....	725
In mining engineering.....	2,244
In textile engineering.....	133
In sanitary engineering.....	27
In architecture	558
In agriculture	3,306
In household economy.....	772
In summer schools.....	11,086
Admitted to A. B. (5,614 men, 3,061 women).....	8,675
Admitted to B. S. (2,801 men, 52 women).....	2,853
Admitted to A. M. (1,111 men, 287 women).....	1,398
Admitted to M. S. (179 men, 6 women).....	185
Varieties of degrees conferred.....	46

Number of pupils in secondary schools, public and private.....	776,625
In Latin	342,988
In Greek	18,951
In French	75,736
In German	125,558
In algebra	389,865
In geometry	191,242
In trigonometry	15,848
In astronomy	14,651
In physics	113,550
In chemistry	51,750
In physical geography.....	150,053
In geology	21,645
In physiology	166,650
In psychology	14,896
In rhetoric	303,083
In English literature.....	320,297
In history (not of U. S.)...	269,056
In civics	134,967

LEXINGTON, KY., Nov. 10, 1905.

President James K. Patterson, LL. D.:

Dear Sir: In accordance with your request, I submit to you the following report of the Agricultural Course for the biennial period 1903-5.

I am glad to be able to report that the increasing interest in the agricultural work reported two years ago, still continues, and is manifesting itself in a gradual increase in the enrollment. The number registered for the regular course for 1902-3 was thirteen, in the following year eighteen, and in 1904-5 nineteen. At this writing, the present year shows a further increase. There is additional encouragement in the fact that our graduates, upon leaving college, are promptly finding openings in desirable and responsible positions.

The character of the work given in the course during the past two years has not differed materially from that of the preceding period. The first two years of the course are nearly identical with the Scientific course, the distinctive work in agriculture being given mainly in the Junior and Senior years.

Much of the most important work of the course has been made possible heretofore through the coöperation of the officers of the Experiment Station in giving courses of instruction in their respective specialties, and I desire to express my sincere appreciation of this aid on the part of Director Scovell and Professors Garman, Harper and May. Professor Garman in particular, in his important branch of Entomology, has given quite extended courses to our students.

I desire also to gratefully acknowledge the aid of the United States Department of Agriculture, which Department, as a result of arrangements made by yourself with Secretary Wilson, detailed an officer of the Division of Soils for instruction in this institution in the winter term of 1903-4. This position was very acceptably filled by Mr. C. W. Dorsey, who gave a course upon soils to an appreciative class throughout the month of January, 1904.

Notwithstanding the valuable aid given by the Experiment Station officers in agricultural instruction, it has long been felt to be highly desirable that more extended courses should be given to our students in agriculture proper and in animal husbandry. The instruction given by these gentlemen has been necessarily limited by the demands of their regular duties, and, except in Entomology, has been confined almost exclusively to the winter term.

It is a source of great satisfaction to the writer, that, since the close of the biennial period under discussion, the Board of Trustees has provided for more extended instruction in these fundamental subjects of the course, by establishing an assistant professorship in Agriculture and Animal Husbandry, and by the appointment of Mr. J. J. Hooper, of Texas, latterly of Iowa, to the position. With this addition to our teaching staff, full courses of instruction have been arranged and begun in Soils and Crops, Stock Breeding, Feeding and Judging, Dairying, Farm Mechanics and Rural Architecture, that will greatly strengthen the course.

Now that more extended instruction has been secured in Agriculture proper, it becomes especially evident that Horticulture should be more adequately provided for. The instruction in this subject has been confined to the two shorter

terms of the Junior year, and but little time has been available for the most essential feature of the work—the laboratory instruction. Several important phases of horticultural instruction have not been touched upon at all. These limitations have been due in part to lack of facilities, and in part also to lack of hours in which to give such instruction, owing to the large demands upon the writer's time in the botanical work of the College, which also consists largely of laboratory study, and thus conflicts with any material extension in the horticultural teaching.

The work in horticulture should be enlarged as speedily as possible to include laboratory courses in pomology and vegetable gardening (now largely consisting of lecture and text-book instruction), plant breeding, landscape horticulture, forcing house crops, and ultimately floriculture. Every one of these subjects is essential to a well-rounded course of horticultural instruction, and they are offered in a large majority of the land-grant colleges.

These requirements could be met, to a considerable degree, by the employment of an instructor who could take charge regularly of some of the classes which must be carried on simultaneously with my own, and it is earnestly hoped that some provision of this kind may be arranged by the next collegiate year.

It is believed that the time is ripe also for the introduction of the study of Forestry in this institution. There are few, if any, States in which the present and prospective interests in forest growth and lumbering are any greater than in Kentucky. These occupations are closely allied and frequently coincident with the agricultural interests of the Commonwealth. There is a widespread awakening as to the importance of this subject, and considerable agitation relative to the matter has already begun in our State, which has resulted in frequent inquiries about forestry being sent to the college and station. The State College is manifestly the institution in which the interests of this subject should center, and right here the initiative should be taken looking toward the training of men to take charge of the rapidly developing interests of this important science. A beginning could be made by incorporating studies in this branch in the Agricultural course, a plan which has been successfully followed in many other land-grant colleges. If the right man could be secured, the instructorship referred to above would, when provided, make it possible to initiate an elementary course in this subject.

It is proposed to make renewed efforts to secure interests and attendance upon a short business course in agriculture for farmers' sons during the next winter term. It has been exceedingly difficult in years past, with our available teaching force, to provide adequately for these short-course students, since in many cases it is desirable, and in others necessary, that the instruction of the regular students should be materially modified to meet the needs of these special students, thus requiring considerable duplication of the teacher's work. With the accession of an assistant professor this difficulty will be in a great measure overcome.

To provide for any satisfactory further expansion of the Agricultural course it is necessary for us to have a building. At present the Agricultural Department proper does not possess a single building, or even a single room upon our College grounds, devoted exclusively to agricultural instruction. This

course can not attain its full usefulness or take its rightful rank in the institution until it possesses a suitable material foundation for its work comparable to the equipment always deemed indispensable for the conduct of any engineering course.

We need rooms for lecture and laboratory purposes in Agriculture proper, in animal husbandry, in horticulture, and forestry; large rooms for the storage and handling of farm engines, implements and machinery, and for such wood-working and forging as are necessary for the work in farm mechanics; a drawing room for rural architecture and landscape gardening, and, finally, glass structures for plant propagation, for vegetable forcing and other forms of winter laboratory study.

Although Kentucky is pre-eminently an agricultural State, we are behind most of the land-grant colleges in our equipment for agricultural instruction. A number of the prominent agricultural States have appropriated hundreds of thousands of dollars specifically for agricultural buildings and equipment.

In view of our needs and the rank Kentucky holds as an agricultural Commonwealth, it seems to me that we make a very modest request if we appeal to our next General Assembly for an appropriation of \$50,000 for a building and equipment for the education of Kentucky youth in agriculture,

Respectfully submitted,

CLARENCE W. MATHEWS,
Dean Agricultural Course.

LEXINGTON, KY., November 1, 1905.

President James K. Patterson, LL. D.:

Sir: In accordance with your request, I submit the following report of the Department of Agriculture, Horticulture and Botany for the biennial period ending in June, 1905.

The enrollment in the several classes of this department for these two years has been as follows:

	1903-4.	1904-5.
Freshman, Botany—1 term.....	26	33
Sophomore, Botany, General—2 terms.....	27	21
Sophomore, Botany, Systematic—1 term..	11	9
Junior, Botany—Fall term—Histology and Economic Botany	6	6
Junior, Botany—Spring term—Plant Phy- siology	6	5
Senior, Botany, Thesis.....	1	2
Post-graduate	1	1
Horticulture—2 terms	10	4
Agriculture—1 term	9	4
Soil Physics, a special course by Mr. C. W. Dorsey, of the U. S. Dept. of Agr..	15	not given
Wood Working	not given	4
Total enrollment	112	89

As will be noted in the classification above, there appears to be a falling off in the number of students in this department for the year 1904-5. This, however, is more apparent than real, and is accounted for mainly by the fact that in the second of these two years, no short winter course in agriculture was offered, and also because the special course given by Mr. Dorsey in 1903-4 was not repeated the following winter.

The work of the department has been carried on in the same general way as in the preceding similar period. The botanical studies are conducted mainly in the form of laboratory work, supplemented by lectures, recitations and written examinations.

The Freshman botany is arranged to correspond with the work usually given in high schools, and is not required of those students who have taken a satisfactory high school course.

The regular Sophomore work is begun with a study of the compound microscope, the student being given a preliminary course of instruction in the care and use of this instrument before applying it to his botanical work proper. The work of this year provides a rather comprehensive general survey of the entire plant kingdom, so arranged because many of the class do not continue their studies in botany beyond this year, and also because this plan secures a very satisfactory introduction to the subject for those who carry their work farther.

The studies of the Junior year include as their main botanical subjects the minute anatomy of plants, plant physiology, and economic botany. In this year also is given a large proportion of the instruction in horticulture and agriculture proper. For several years past, as referred to in the accompanying report of the agricultural course, much of the agricultural instruction has been voluntarily given by the officers of the Kentucky Agricultural Experiment Station. With the beginning of the present year, however, an assistant professorship in agriculture and animal husbandry has been created, and, as a result, a greatly expanded scheme of agricultural instruction has been planned and entered upon.

This department, in common with others, has for several years shared in the benefits of the system of annual fellowship appointments in use in this institution. The appointee in this department, while taking post-graduate study—usually in botany—also serves as a laboratory assistant, giving attention to a part of the routine work of securing plant material for classes and to the numberless other details involved in laboratory instruction.

For several years past, there has been an increasing need of assistance of a more permanent character than these fellowships afford. During a part of the year, it has been necessary for the instructor to conduct two botanical classes simultaneously. In the fall and spring terms, both, it is desirable to carry on laboratory courses also in horticulture at the same hour that large classes of botanical students are in session. With the increase in the variety of studies in agriculture proper, inaugurated with the present session, it is important, in order to secure a well-balanced agricultural course, to increase very materially the laboratory courses in horticulture, such as systematic pomology, market gardening and forcing house practice. To do these things requires the appointment of a regular instructor who could

give all of his time to the work, and such an appointment, it is earnestly hoped, may be provided for in the near future.

On account of the very limited appropriations of the past two years, no extensive additions to the equipment could be made, the expenditures being mainly confined to the purchase of supplies and reagents for the regular routine work of the laboratory.

The department library has, however, been extended by the purchase of forty-nine volumes, and the advanced laboratory has been equipped with new tables at a cost of about ninety dollars.

A special appropriation of one hundred and fifty dollars was granted to the department in January, 1905, for the purpose of establishing a course in wood-working, especially adapted to the needs of the agricultural students. Temporary quarters for this work were provided in the basement of the natural science building, and it is planned to make this work a distinct feature of the Agricultural Course.

Respectfully submitted,

CLARENCE W. MATHEWS.

LEXINGTON, KY., November 20, 1905.

President James K. Patterson, State College of Kentucky, Lexington, Ky.:

My Dear Sir: As Dean of the School of Mechanical and Electrical Engineering of the State College of Kentucky, I have the honor to present to you a report relative to this department, to be incorporated in your biennial report to the General Assembly. This report covers the period for the two years beginning July 1, 1903, and ending July 1, 1905, together with a statement of the number of students matriculated in this department at the beginning of the fall term, 1905.

MATRICULATES.

During the College year 1903-4, the matriculates in the department were distributed as follows: Seniors, 20; Juniors, 42; Sophomores, 49; Freshmen, 70.

During the College year 1904-5, the matriculates were as follows: Seniors, 29; Juniors, 34; Sophomores, 38; Freshmen, 56.

At the beginning of the year 1905-6 the matriculates are as follows: Seniors, 30; Juniors, 20; Sophomores, 51; Freshmen, 46.

COURSE OF STUDY.

The curriculum of this department has an individuality that stands out prominently before the educational world. In most of the older courses of study a hard and fast line has been drawn between electrical and mechanical engineering. Many courses in electrical engineering make good electricians, but not first-class engineers. Many schools develop good steam engineers, who are totally deficient in the electrical end of engineering.

It is the purpose of this school to give young men a broad training in dynamic engineering, so that when they leave this institution they may take

up any branch of engineering relating to the design, construction and operation of steam, electric, gas, pneumatic, or hydraulic machinery. They have a splendid foundation for carrying on any work in the design of machine tools and special machinery. All phases of power transmission and the application of machines to industrial work are so intimately associated that it is very necessary in the training of a mechanical engineer to give him such a broad foundation upon which to build his engineering structure that he may be able to take up any branch of mechanical engineering and build a successful engineering career upon the foundation that he has received in college.

It is a mistake to specialize too severely in undergraduate courses in engineering. No engineering school can make an efficient engineer any more than a law school can graduate a lawyer thoroughly versed in all lines pertaining to his profession.

The engineering school simply constructs the foundation; the superstructure must be erected by the man's own application and experience after leaving college. Comprehensive courses in analytical mechanics, strength of materials and mechanical drawing have enabled graduates to take up architectural work. It has been the aim of this school to present such a course of study that will prove efficient as a basis for any line of engineering work, and the success that has been attained by graduates of Kentucky State College in the commercial engineering world is a tribute to the efficiency of the Kentucky School of Mechanical and Electrical Engineering.

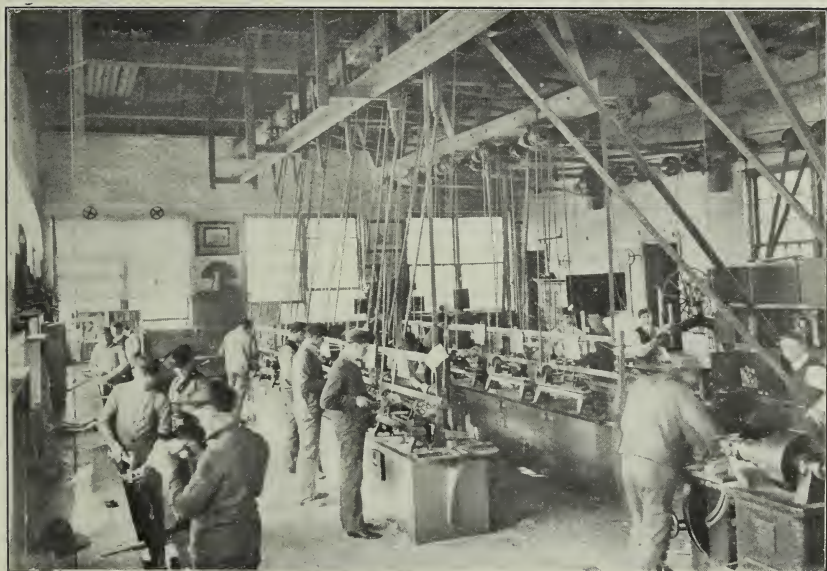
The course of study carried on in the School of Mechanical and Electrical Engineering has not been modified for several years, with the exception that subjects have been presented each year, as the development in the science of mechanical engineering has warranted. The course of study in this department is shown by the accompanying tabulation. The character of work of the students the last two years has been very superior to that ever done before, due to the enforcing of the faculty regulations pertaining to this department, that no student be allowed to enter the Senior year with a condition in any subject, and that no student be allowed to enter the Junior year with but one condition, and that due to a failure; and that no student be allowed to enter the Sophomore year with one condition, due to a failure, the standard of work in all classes has been very much raised. This rule has been the means of weeding out inferior material, which undoubtedly is always an important element in determining the standard of any class work.

CLASSES TAUGHT BY INSTRUCTORS.

During the year 1903-4 those classes relating to mechanical engineering, in its proper sense, were taught as follows:

CLASSES TAUGHT BY F. PAUL ANDERSON.

- | | |
|----------------------------|-----------------------------|
| (1) Steam Engineering. | (6) Steam Boilers (Theory). |
| (2) Valve Gears. | (7) Steam Boiler Design. |
| (3) Steam Engine Design. | (8) Gas and Oil Engines. |
| (4) Steam Laboratory Work. | (9) Thesis Supervision. |
| (5) Valve Gear Design. | |



WOOD SHOP.

CLASSES TAUGHT BY JOHN T. FAIG.

- (1) Strength of Materials.
- (2) Theory of Machine Design.
- (3) Machine Design (Drawing Room).
- (4) Analytical Mechanics.
- (5) Kinematics.
- (6) Freshmen and Sophomore Drawing.
- (7) Supervision of Machine Shops.
- (8) Testing of Materials of Construction.
- (9) Dynamometers and Measurements of Power.

CLASSES TAUGHT BY A. R. SAWYER AND A. M. WILSON.

- (1) Electro-Dynamic Machinery.
- (2) Dynamo and Motor Design.
- (3) Alternating Currents.
- (4) Dynamo and Motor Testing.
- (5) Descriptive Geometry Drawing.
- (6) Junior Electrical Design.
- (7) Electrical Laboratory.
- (8) Senior Electrical Design.
- (9) Supervision of Electrical Theses.

CLASSES TAUGHT BY L. E. NOLLAU.

- (1) Four hours each day in the Wood Shop in charge of Wood Work and Pattern Making.
- (2) Bench Work in Wood (Theory).
- (3) Theory of Pattern Making and Foundry Practice.
- (4) Descriptive Geometry Drawing.
- (5) Theory and Practice of Photography.

CLASSES TAUGHT BY JOSEPH DICKER.

- (1) All classes in Foundry Practice.
- (2) All classes in Iron and Steel Forging.
- (3) Supervision of Machine Shop.

CLASSES TAUGHT BY T. W. FREEMAN.

- (1) Four hours a day teaching Freshman Mechanical Drawing.
- (2) Instructor in Machine Shop classes.

M. A. Doyle in charge of apparatus in the Experimental and Steam Laboratories.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON 2:45 TO 5:00.	SATURDAY A. M. 9:00 TO 12.	TERM
FRESHMAN YEAR.	English.	Trigonometry.	Model and Object Drawing.	Woodwork Machine Design.	Drill.	Shop Woodwork Bench, Lathe.	Shop Woodwork Bench, Lathe.	1
	English.	Solid Geom.	Physics.	Pattern Making Foundry Draw'g.	Drill.	Pattern Making Foundry.	Pattern Making.	2
	English.	Algebra.	Physics.	Mech. Drawing.	Drill.	Pattern Making Foundry.	Pattern Making.	3
SOPHOMORE YEAR.	Analyt. Geom.	Chemistry.	Elem. Design.	Physical Lab.	Drill.	Iron and Steel Forging.	Iron and Steel Forging.	1
	Analyt. Geom.	Surveying.	Metallurgy.	Descr. Geom.	Drill.	Machine Work.	Descriptive Geom. Drawing.	2
	Analyt. Geom.	Elem. Design.	Calculus.	Descr. Geom.	Drill.	Machine Work Surveying.	Descriptive Geom. Drawing.	3
JUNIOR YEAR.	Elementary Electricity.	Mechanics of Materials.	Calculus.	Kinematics Theory of Machine Design.	Drill.	Kinematic Drawing Machine Design.	Kinematic Drawing.	1
	Electrical Design	Analytic Mechanics.	Calculus.	Dynamo Electric Machinery.	Drill.	Chemical Laboratory.	Machine Design.	2
	Dynamo & Motor Design.	Graph. Statics.	Analytic Mechanics.	Dyn. Elec. Mach. Theory of Machine Design.	Drill.	Machine Design Electrical Lab.	Machine Design. Electrical Lab.	3
SENIOR YEAR.	Thermodynamics Hydraulics.	History.	Alter. Currents. Dyn. Mot. Design.	Valve Gears Steam Boilers.	Library.	Valve Design Electrical Lab.	Steam Laboratory	1
	Alter. Currents Power Plant.	History.	Steam Engine Design.	Dynamometers Pumps.	Library.	Valve Design Dyn Mot. Design.	Steam Laboratory.	2
	Thesis.	Polit. Economy.	Photography.	Thesis.	Library.	Thesis.	Thesis.	3

FIRST TERM, SEPT. 8 TO DEC. 23. SECOND TERM, JAN. 3 TO MARCH 10. THIRD TERM, MARCH 13 TO MAY 31.

GRADUATES AND TITLES OF THESES.

In June, 1904, the following theses were presented by graduates:

For the Degree of Mechanical Engineer:

George Frederick Blessing—Development of Shop and Drawing Room Courses for Technical Schools.

Samuel Archibald Bullock—Design for High Speed Passenger Service in the New York Subway, an Electric Motor Truck to Carry on the Center Plate 28,000 Pounds.

Frank Garfield Cutler—Duty Trials of Nordberg Pumping Engine, Central Pumping Station Illinois Steel Company, South Works, Chicago, Illinois.

Frank William Milbourn—Design and Discussion of 500-Horse-Power Simple Non-Condensing Corliss Engine.

Joseph Franklin Musselman—A System of Oil Piping for Specific Supply of Motive Power.

Perry West—Power Plant Piping.

For the Degree of Bachelor of Mechanical Engineering:

Robert Clark Butner—Design of an Arc Light Blue Printing Apparatus.

Edward Thomas Dowling—The Construction and Testing of a Rotary Gas Engine.

Martin Augustus Doyle, Eugene Gilliland—Design of a Power Plant, Lighting System and Electric Street Railway for the City of Lexington, Ky.

Orville Kirk Dyer—A Study of Four Cycle Gas Engine Performances, with Special Reference to Amount of Compression Before Ignition.

William Edwin Freeman, Carroll Hanks Gullion—Design of a Heating, Lighting and Power Plant for the New Office Building of the Security, Trust and Safety Vault Company, Lexington, Ky.

Henry Skillman Fry—The Design of an Experimental Laboratory for the State College of Kentucky.

Styles Trenton Howard, Emerson Everett Ramey—A Series of Passenger Engine Road Tests on the Cincinnati Southern Railway between Cincinnati, O., and Somerset, Ky.

Patrick Owen Hunter, Hampton Wallace Johnston—Duty Test of Lebanon Water Works Company's Pumping Plant.

Alexander Lewis Jenkins—A Discussion of the Appliances Used In the Positive Transmission of Power.

Frank Yarbrough Johnson—Design of a Transmission Dynamometer.

Charles Aloysius Matlack—A Design of a Factory and Equipment for the Manufacture of a Line of Drill Presses.

John Eve Matthews—The Design of an Electric Interurban Road between Versailles and Frankfort, Ky.

James Simeon McCauley—An Investigation of the Development of the Shaft Governor for Steam Engines.

Louis Edward Nollau—The Design of a Heating and Lighting Plant for a Modern Steel Construction Building.

Clair Porter St. John—A Study of the Development of Electric Railways

Clifton Carr Stackhouse—A Comparison of the Webster and Paul Systems of Steam Heating.

In June, 1905, the following theses were presented by the men as shown below, for the degrees indicated:

For the Degree of Mechanical Engineer:

Lewis Wynn Martin—The Evolution of the Modern Freight Car.

Edward Clinton Evans—Electrically Welded Street Railway Joints.

Garnett Rosel Klein—The Arrangement of the Louisville & Nashville Railroad Power Station Piping.

William Edward Pulverman—The Commercial Efficiency of the Finer Anthracites.

Howard Aubrey Hoeing—A Thirty-five Ton Plate Ice Plant as Erected for the Cataract Ice Company at Niagara Falls, New York, by the Triumph Ice Machine Company, Cincinnati, Ohio.

Fleeman Coffee Taylor—Measurements of Blast Furnace Gas by Means of Venturimeter and Pitometer.

Wallace Hoeing—Proposed Plans and Specifications for Machinery and Pipe Work to be Installed in the Power Plant of the United States Naval Station, New Orleans, La.

Joseph Buckley Wilson—Design, Construction and Cost of Direct Current Switch Boards.

Herman Creel Heaton—Efficiency Test of Power Plant Equipment for the Cincinnati Gas and Electric Company.

For the Degree of Bachelor of Mechanical Engineering:

G. H. Gilbert—A Study of the Water Pumping Stations along the Cincinnati Southern Road, between Cincinnati, Ohio, and Somerset, Ky., to Determine Relative Cost of Pumping Water by Steam and Gasoline Pumps.

F. H. Darnall—To Complete the Design and Construction of a Four Pole Shunt Motor.

W. H. Grady and C. W. Ham—Efficiency Test of Georgetown Water, Gas, Electric and Power Company's Plant.

J. F. Shipp—Design of a Hydro Carbon Steam Prime Mover.

B. Thomas and A. D. Murrell—A Study of the Economy of a Fifty Horse Power Multitubular Boiler, with Different Ratios of Grate Area to Heating Surface.

K. F. Adamson and H. G. Edwards—A Series of Comparative Tests Conducted on the Frisco System, between a Simple Locomotive, an Alfree-Hubble Locomotive and a Vaucrain Four Cylinder Locomotive, all of the Same Class.

F. Johnston—Photography as an Aid to Engineering.

H. J. Tomlinson—The Design of a Suction Gas Producer Plant to Supply Three 1,000 H. P. Gas Engines.

H. L. Prather and H. H. Urmston—An Experimental Study of the Plant of the Cynthia Electric Light Company, Cynthia, Ky.

W. J. Payne—Design of a Power Plant of 50,000 K. W. Capacity, Using Steam Turbines, including Buildings, Boiler Equipment, Turbine Layout, Generators and Switch Board.

C. B. Owens and W. G. Layson—Design of Power Plant to Handle the Electric Load of a City of 30,000 Inhabitants, Including Private and Street Lighting, Power and Current for Thirty Miles of Interurban Service.

V. D. Roberts and S. M. Morris—A Study of the Effect of Different Coals on Locomotive Economy, as Shown by Tests on the Cincinnati Southern Road.

L. E. Baumgarten and C. A. Bickel—The Design of a Power Plant of 50,000 K. W. Capacity, Source of Power to be the Gas Engine. The Problem to Include the Design of the Buildings, the Gas Producer Plant, Switch Board and all Connections, and a Selection of Gas Engines, Generator Layout and Storage Battery Plant.

J. B. Sprake—The Building and Testing of a Rotary Converter.

H. P. Ingels—A Study of the Various Commercial Gas Producer Systems.

H. M. West—An Investigation of the Actual Performance of Piping Systems Under Service, with Particular Attention to Expansive Movements and their Attending Stresses in the Pipe. Work done in the Water Side Station of the New York Edison Company, New York City.

C. R. Wallis and E. A. Cline—A Study of the Power Required to Haul Passenger Trains on Cincinnati Southern between Cincinnati, Ohio, and Somerset, Ky.

M. W. Powell—Design of Machine Shop and Equipment for the Manufacture of a Line of Stationary Engines.

A. Akin—A Study of the Engineering Factors of Architectural Design.

TRIPS OF INSPECTION.

The annual inspection trips for Junior students were made during the two years, under the direction of Prof. John T. Faig; the objective points were Cincinnati, Hamilton and Dayton.

The Senior trips for the two years were under the direction of the undersigned in 1904, and under the direction of Prof. A. M. Wilson and the undersigned in 1905; the objective points were Lafayette, Indiana, Chicago, Illinois, and Milwaukee, Wisconsin. These inspection trips are of inestimable value to the Junior engineering student just before beginning his final work in machine design, which consists of the complete development of a machine tool, and the students are privileged to visit some of the largest machine-building establishments in the country. The Seniors, just before taking up the discussion of a comprehensive thesis problem pertaining to power transmission or development, are given many practical illustrations of the current practice pertaining to the great surface and elevated railroads and manufacturing power stations, which are characteristic engineering features of a great city.

POSITIONS FOR SENIORS.

Never in the history of mechanical and electrical engineering in this institution has there been such evidence of the standing of the State College of Kentucky in the engineering world as has been shown during the last two years.

In June, 1904, there were forty-two places available for the twenty Seniors graduated. In June, 1905, there were seventy-two places that could have been filled had there been sufficient number of graduates from the department; this condition, however, gave the twenty-seven men splendid opportunity to select just the sort of work which was congenial and for which they were best adapted.

As an illustration of the firms the graduates in mechanical and electrical engineering found employment with, immediately after graduation, the following statistics from the class of 1905 will prove of interest:

The graduates of last year's class were employed by the following institutions:

Keith Frazee Adamson—Allis-Chalmers Company, Milwaukee, Wisconsin.

Alison Akin—Western Electric Company, Chicago, Illinois.

Louis Erwin Baumgarten—Illinois Steel Works, Chicago, Illinois.

Charles Alfred Bickel—Bullock Electric Company, Cincinnati, Ohio.

Frank Hendrick Darnall—Westinghouse Electric and Manufacturing Company, Pittsburg, Pennsylvania.

Harry Griswold Edwards—General Electric Company, Schenectady, New York.

Edgar Allen Cline—Baldwin Locomotive Works, Philadelphia, Pennsylvania.

George Hubbard Gilbert—Western Electric Company, Chicago, Illinois.

William Henry Grady—Atlas Engine Works, Indianapolis, Indiana.

Clarence Walter Ham—Instructor in Mechanical Engineering, State College of Kentucky, Lexington, Kentucky.

Howard Payne Ingels—American Car and Foundry Company, Berwick, Pennsylvania.

William George Layson—Atlas Engine Works, Indianapolis, Indiana.

Stewart Minor Morris—Fairbanks, Morse & Company, Beloit, Wisconsin.

Artemas Denman Murrell—Fairbanks, Morse & Company, Beloit, Wisconsin.

Charles Beland Owens—American Car and Foundry Company, Berwick, Pennsylvania.

Harry Logan Prather—Instructor in Mechanical Engineering, University of Nevada, Reno, Nevada.

William Johnson Payne—Instructor in Mechanical Engineering, University of Pennsylvania, Philadelphia, Pennsylvania.

Max West Powell—Fairbanks, Morse & Company, Beloit, Wisconsin.

Virgil Dickey Roberts—Atlantic and Birmingham Construction Company, Talbotton, Georgia.

Joel Fithian Shipp—Bullock Electric Company, Cincinnati, Ohio.

Hugh Joseph Tomlinson—Westinghouse Electric and Manufacturing Company, Pittsburg, Pennsylvania.

Bennett Thomas, Signal Department, C. S. R. R., Lexington, Kentucky.

Henry Howard Urmston—Southern Engine and Boiler Works, Jackson, Tennessee.

Charles Rees Wallis—New York, New Haven and Hartford Railroad, Norwood, Massachusetts.

Howard Murphy West—New York Edison Company, New York City.

EFFICIENCY OF INSTRUCTORS.

It is my pleasure to say that I believe there is no engineering school in this country that has, at the present time, a more efficient corps of instructors. Every man is energetic, enthusiastic and thoroughly proficient in his work. A spirit of activity pervades the department and a large percentage of the students put in much more time than is required of them. The students seem to find their greatest pleasure in the work pertaining to their college course. The department hours are from eight in the morning until five in the afternoon; the work of every student is laid out so that he will have no vacant hours during that time.

THE DEMAND FOR ADDITIONAL BUILDINGS AND EQUIPMENT.

A critical period has been reached in the development of the School of Mechanical and Electrical Engineering. It is an undisputed fact that the greatest possible use has been made of the facilities that have been provided for training young men in mechanical and electrical engineering in Kentucky. By teaching young engineers to work faithfully and persistently on the subjects contained in this college course, we have been able to graduate individuals who have proven highly efficient in the engineering world; but there are decided limitations in the process of training young engineers without adequate material facilities. While other prominent engineering schools throughout the country during the last few years have been receiving thousands of dollars for betterments, we have been compelled to do with only sufficient support for operating expenses of the department, and for several years we have added practically nothing to our equipment. A nucleus for a great engineering school has been formed, but it is evident that unless a large amount of money is secured for putting our plant on a more modern basis, we will be seriously handicapped in competing with the work that is being done in those schools where hundreds of thousands of dollars have been spent on engineering buildings and equipment.

RECOMMENDATIONS.

First: That one hundred thousand dollars be secured from the State Legislature to put up a modern building for mechanical and electrical engineering work.

Second: That fifty thousand dollars be secured from the State Legislature for properly equipping the above building.

The States of Iowa, Illinois, Indiana, Tennessee, Ohio, West Virginia and Missouri have equipments for mechanical and electrical engineering work, ranging from one hundred thousand to four hundred thousand dollars in value. The value of the equipment for mechanical and electrical instruction at the State College of Kentucky is less than fifty thousand dollars.

Yours respectfully,

F. PAUL ANDERSON,

Dean, School of Mechanical and Electrical Engineering.

LEXINGTON, KY., November 18, 1905.

President James K. Patterson, State College of Kentucky:

Dear Sir: In accordance with your request, I submit the following biennial report of the Department of Physics:

The Department of Physics occupies three rooms in the basement of the main College building. One room was formerly used as a machine shop, another as a blacksmith shop. They are damp, poorly lighted and ventilated; mold and rust attack the instruments. One of these rooms is used as a store-room and laboratory for elementary work; it will conveniently accommodate at one time about twenty students, but, in order to meet present requirements, it should accommodate at least fifty students. One-half of the second room is crowded with thirty-five seats; the other half of this room, furnishing a floor space 15x24 feet, is used for storage and as a laboratory for the Junior and Senior classes in Physics. It is furnished with two small tables for experimental work and can accommodate, without crowding, less than a dozen students. Accommodation should be had for about fifty students. Any one can see how seriously handicapped this work is, and how difficult it is to secure good work under these conditions. Some lines of important work can not be even attempted. The facilities for instruction and class work are relatively worse than they were a few years ago, when there were fewer students, and will grow worse still as the number of students increases.

When the enrollment is complete the number of students receiving instruction in Physics this year will be about two hundred.

At present the most urgent needs of this department are:

First: A new building for Physics, or a portion of a new building. It should afford about three times as much space as this department now has. There should be two lecture-rooms, two principal laboratories, besides a number of smaller rooms for apparatus, storage, electric batteries, dark rooms, etc.

Second: Additional equipment.

These, especially the first, are *urgent needs*, and not simply wants. This fact can easily be verified by investigation.

The importance of Physics is recognized in some measure by the prominence given to it in the courses of study in this College which lead to the various bachelor degrees. Physics, chemistry, physiology, geology, zoölogy and botany are the principal branches of science taught in these courses. Of these branches, the first two only are required of every student for graduation from this College, but, while this is true, physics is the only science not well provided for.

I most earnestly and respectfully call attention to these needs and hope that the Legislature of Kentucky will make an appropriation that will enable the Board of Trustees to provide properly for this department of study.

Respectfully,

M. L. PENCE,
Professor of Physics.

LEXINGTON, KY., November 11, 1905.

Dr. James K. Patterson, President State College of Kentucky:

Dear Sir: In response to your request, I have the honor to submit the following report concerning the Department (in effect School) of Mining Engineering.

LOCATION.

I deem it well to emphasize the fact that Lexington is one of the most fortuitously situated places for the location of a mining school to be found in this country. The idea that such a school must be immediately in a mining region is not at all well founded. At best, schools so located have only one form of mining at their doors—either iron, or copper, or coal, or lead, silver or gold, requiring excursions, in most instances long ones, for the study of other varieties. One of the greatest of the mining schools of the world (Columbia) is located in New York City. Lexington is in close touch with various mining fields; it is within easy distances of coal, lead and zinc, and iron mines, with their dressing and reduction plants, within the State, and of copper and gold mines, with their reduction plants, south of us.

COURSE OF STUDY.

The course was established on a high standard, in the belief that we should seek from the beginning to turn out graduates of a high grade, rather than begin with a lower standard merely because that might (as experience has shown would have been the case) result in a larger number of matriculates. While it must be admitted, as is indicated beyond, that in one direction it has not been possible to meet the requirements of the course as fully as should be done, still they should be and are retained in the expectation that ultimately provision will be made to cover all of them in a satisfactory way. Our deficiencies are in metallurgy and ore dressing; in all other respects, the instruction given compares favorably with that afforded by older and well attended mining schools, and in some instances is better than may be had at some of them. Following is the course of study leading to the degree of bachelor of mining engineering:

Freshman Year.—English, Plane Trigonometry, Solid Geometry, Higher Algebra, Physics, Free-hand and Mechanical Drawing, Shopwork in Wood.

Sophomore Year.—Analytical Geometry, Calculus (begun), Chemistry, Physical Laboratory, Geology (general), Metallurgy, Surveying and Mapping, Elementary Design, Descriptive Geometry, Mechanical Drawing, Iron and Steel Forging.

Junior Year.—Calculus (concluded), Strength of Materials, Chemistry of Metals, Metallurgy and Assaying, Electricity and Magnetism, Quantitative Analysis, Surveying and Mapping, Mine Surveying, Analytical Mechanics, Mineralogy and Blowpiping, Dynamo-Electric Machinery, Electrical Appliances, and Mining (including Excavating, Quarrying, Boring, Shaft Sinking, Prospecting, Exploration, Methods of Working and Timbering Mines, etc.).

Senior Year—History and Political Economy, Hydraulics, Steam Engine and Boilers, Alternating Currents and Power Plants, Economic Geology, Mining (including Extraction of Minerals, haulage, hoisting, draining, ventilating, etc.; Machines and Appliances for Mining, hoisting, draining, ventilating, screening, etc.; Examination and Valuation of Mines), Ore Dressing, Gold and Silver Milling, Coal Washing, Mine Plant Design, and Thesis work. Opportunity for visiting mines, under guidance of the Dean or other qualified person, is given during the holidays and at the close of the term.

EQUIPMENT.

The school is provided with an electric light stereopticon, and a reflectoscope, with a large number of lantern slides for illustrating lectures; numerous charts, blue-prints and photographs illustrating mining methods and machinery; a working model of a mine hoist, with safety catch for cages; a "German dial" (or hanging compass) and accessories, and plummet lamps for mine survey; a Vajen-Bader "head protector," an apparatus for use in exploring mines filled with deadly gases after explosions or during fires (loaned by the Vajen-Bader Company), some safety lamps, and apparatus for measuring ventilation. For work in the laboratory, the equipment consists of a standard Wilfley concentrating table, a Hallett hand jig, a Campbell coal-washer, a model of a complete coal-washing plant, a mine ventilating fan (all three presented by Mr. J. B. Atkinson, of Earlington, Ky.), and an assaying outfit. The machines are operated by a three horse power electric motor.

MATRICULATES.

The school has entered upon its fourth year. Unfortunately, when establishing the department, no provision was made by the Legislature either for a building or for equipment, and the financial resources of the College have not been sufficient to supply the needs in that direction. The school, therefore, is being developed under serious limitations, due not only to the wants indicated, but to circumstances which they render possible, and the number of students enrolled has not equaled what may confidently be expected whenever the school shall be placed in a more favorable position, and be enabled, also, to meet competition within the State coming from schools of other States. The opening of the present session, however, bears witness to hopeful progress, notwithstanding our embarrassments. The school opened its first session with five matriculates; the present session opened with ten, including seven new men. A number of applicants have failed to enter either because of insufficient preparation, or on account of the length of the course (four years). We have sent out three graduates. One of them, after taking post-graduate work here, is now employed at a copper mine; another, until recently employed on the State Geological Survey, will now enter the service of a Kentucky coal mining company; and the third is taking post-graduate work.

SHORT COURSE IN MINING.

In the foregoing paragraph, mention was made of the failure of persons to enter the course because of its length, etc. Reference was especially to young men working in our coal mines ("practical miners") and to mine foremen. A short course in mining for such men is very desirable, and many expressions favoring it have been received from the mines. It would prove of great value to the mining interests of the State, since first-grade foremen are, unfortunately, scarce in Kentucky. Were there such a course in the school, I have reason to know that there would be a considerable attendance upon it; and since it is probable that legislation prohibiting the employment of any but "certificated" foremen at our mines (as in other States) will be enacted at an early day, it seems our duty to provide such a course. But as matters stand it is not practicable to do so.

PROGRESS IN INSTRUCTION GIVEN.

For the first time since the department was organized, laboratory instruction in some of the phases of ore dressing and in mine ventilation was given during the session of 1904-5. This was rendered possible by the erection of a small frame building at a cost of \$200. Less could be accomplished than was hoped for, however, not only because of lack of certain machines, but because the building was too small even for what we had. To obviate the latter difficulty, the building has been enlarged, but it is still no more than a make-shift, simply large enough to afford space for the present appliances, few as they are. As a "mining laboratory," it is quite inadequate.

IMPORTANCE OF INSTRUCTION IN ORE DRESSING.

The importance of affording adequate instruction in ore dressing will be recognized when it is known that a recent list obtained by the State Geological Survey (published in the report of the Inspector of Mines for 1904) shows more than eighty operators in our western lead, zinc and spar district, and that several operations have been established in the Central Kentucky district. The Missouri School of Mines is now attracting young men from Kentucky, because of facilities it offers for the study of ore dressing. Such young men could more readily be brought to this school, were we prepared to properly meet their wants, since in several respects this school has advantages over that at Rolla. The desirability that we shall be prepared to give satisfactory instruction in coal washing and coking seems obvious. Moreover, with a properly equipped ore dressing and metallurgical laboratory, the school could render valuable service in forwarding the development of our mineral districts, especially with regard to the concentration of our zinc ores—a problem upon the solution of which depends the commercial value of a large proportion of such ores as found in this State. The laboratory could, undoubtedly, prove of great service as a testing plant for ores and coals of the State.

URGENT NEEDS.

At this time the department is without a habitation of its own—without even a class-room of its own, the one used by the professor of mining as a lecture-room being one which, forming part of the suite belonging to the Department of Zoölogy, was placed temporarily at his command by the professor of geology and zoölogy. The small frame building that has been erected to serve temporarily for such instruction as can now be given in ore dressing, etc., is utterly too small in every way, and our poverty in apparatus and machinery is woeful.

We need a building in which there shall be space for one or two class rooms; a mining museum, for models, tools, machines, apparatus, etc.; a mining laboratory, for ore dressing, concentration, coal washing, etc.; a metallurgical reduction laboratory, for furnaces, chlorination, cyaniding, assaying, etc.; a library and draughting room; a small office for the dean of the department, and the offices of the Inspector of Mines and assistants, including a room for their maps and records, should be in the same building.

We need crushers and rolls, special lecture-room apparatus for illustrating the laws of ore concentration, models of various sorts of mine machinery, a small stamp battery, sizing machines, magnetic concentrators, sets of mining and blasting tools, small chlorinating and cyaniding plants, sets of safety lamps, models illustrating various sorts of smelting furnaces, etc., etc.

FINALE.

I venture to believe that, though the youngest and most meagerly equipped, this department is not the least important one in the College. Its graduates will be directly associated with the development of the mineral resources of the State, and upon the latter depends the establishment of various industries that will call for the employment of graduates of other departments. In effect, repeating what I have said in a former report, I regret having to emphasize our deficiencies, but, nevertheless, deem it proper to lay them plainly before you that they may be considered along with the many extraordinary advantages afforded the mining student at State College. It is to be hoped that the necessary legislation to place the department on an even footing with other engineering departments of the College may be obtained at an early day; should this be accomplished, it is confidently believed that this school may be rapidly brought to a position that will enable it to cope with the mining schools of other States, and that the attendance not only from Kentucky but from States to the south of us will be all that can well be desired. Happily, provisions for thorough instruction in all the auxiliary branches of study that go with mining and metallurgy (including applied mechanics, applied electricity, chemistry, geology, etc.) are ample and complete.

Very respectfully,

C. J. NORWOOD, Dean.

LEXINGTON, KY., November 1, 1905.

President James K. Patterson, State College of Kentucky:

Dear Sir: Since the direction of the Chemical Department was committed to me only at the beginning of the present academic year, I do not feel myself to be in a position to review the work of the department during the last two years, when it was under the direction of my distinguished predecessor.

It gives me pleasure, however, to report that the laboratory, with its equipment, was received in excellent condition, and the advanced students in chemistry give evidence of having received careful training.

Under the present arrangement of courses in the College, chemistry is merely one of several subjects included in the scientific curriculum. No provision is made for the study of chemistry with reference to the applications of the principles of this, the most useful of all the sciences in the industrial arts.

The conditions in the College are favorable and the time is ripe for extending the usefulness of the chemical department by establishing in it two professional schools, namely, a school of chemical engineering and a school of pharmacy.

It is generally conceded that State colleges and State universities should prepare men for specified callings; that these State institutions should train for vocation as well as for culture, and the public is now deprived of the most valuable service which the Department of Chemistry in our own College should render to the State.

Many industrial establishments, such as soap works, gas works, fertilizer works, soda works, superphosphate works, oil refineries, tobacco extract works, sugar refineries, and bleacheries are based upon the application of chemical principles, and these industries can be conducted most profitably by chemists who are likewise familiar with mechanical subjects.

As manufacturers are turning their attention more and more to the recovery of by-products, which formerly were thrown away, so there is an increasing demand for technical chemists to devise processes whereby materials hitherto considered worthless may be utilized and placed to profitable account.

The managers of all such establishments are constantly applying for chemical engineers having a thorough knowledge of the science of chemistry and capable of constructing and improving the methods and appliances used in the manufacture and recovery of chemical products.

The establishment of a School of Chemical Engineering under the leadership of the Department of Chemistry would add greatly to the efficiency of the department. Such a school would serve, moreover, to attract to the State College many young men who would otherwise be compelled to secure this training in other States where schools of Chemical Engineering exist.

No serious additional cost would be incurred by instituting a School of Chemical Engineering in the College. The new course would involve mainly such an arrangement of the work of the Chemical students as to allow them to take advantage of the superior instruction and practice afforded by the Mechanical Engineering Department, already established in the College.

There is also great need in Kentucky of a combined collegiate and professional School of Pharmacy. Many young men have already applied to me for instruction in Chemistry that they might qualify themselves as practicing pharmacists in this State; but, as no provision has ever been made for work of this kind, all such applicants have been reluctantly dismissed.

The College is fortunate in having already excellent courses in Anatomy, Physiology, Botany, and Physics. With the coöperation of these departments, together with a special course in pharmaceutical practice, the Chemical Department of the State College could maintain a course in Pharmacy of superior grade.

Such a school, offering technical training in pharmaceutical practice, would be attractive to young women as well as to young men. A new field of usefulness is thus opened to those women who qualify themselves for the reputable and lucrative practice of Pharmacy, the sister of Medicine.

No other professional department of the College would be more likely to have its graduates permanently settled within the State, and in future years a large constituency of well-educated, well-trained druggists and pharmaceutical chemists, holding the diploma of the State College of Kentucky, would reflect credit upon the institution which prepared them for the duties and responsibilities of life.

The number of students receiving instruction in Chemistry is the largest in the history of the Department. All the available desks in the Chemical building on two floors are already occupied, and thirty students are now waiting for places where they may do the experimental work required.

The timely withdrawal of the Agricultural Experiment Station has temporarily relieved the fearful congestion of last year, and yet the building is none too large to accommodate the students in the Chemical Department. Working desks and other furnishings are sorely needed to meet the demands now pressing for places in the laboratory.

Two regularly qualified assistants must be added to the teaching force of the Department in order that the students may receive proper attention and the instruction which they need.

Very respectfully,

CHASE PALMER,
Professor of Chemistry.

LEXINGTON, KY., October 21, 1905.

President James K. Patterson:

Dear Sir: Herewith is my report of the work done in the School of Civil Engineering during the last two years.

The increase in attendance in this department has been as follows:

Year.	Post-Grad.	Seniors.	Juniors.	Soph.	Freshmen.	Total.
1896-1897.....	0	0	3	4	2	9
1897-1898.....	0	1	5	3	10	19
1898-1899.....	0	4	3	8	8	23
1899-1900.....	1	3	5	11	9	29
1900-1901.....	1	5	10	14	14	44
1901-1902.....	0	8	6	18	14	46
1902-1903.....	2	6	13	20	13	54
1903-1904.....	1	12	16	19	22	70
1904-1905.....	0	11	12	31	21	75

Last year this department was the only one that showed an increase in the number of under graduates. In the current year there is now an increase of 15 per cent. over last year. For the years named above, the increase in civil engineering has been two and one-half times as fast as for the College as a whole.

Not a single one of our graduates has failed to find employment directly after leaving college, and they have, in their work, proved themselves as efficient as the graduates of other institutions with whom they are in competition. They are at work on railroads, bridge designs, sanitary engineering, waterworks and in mining.

All these industries are needed at home, in Kentucky, and as the State is developed, there will be more work for young civil engineers here. Every young man who must leave the State to practice his profession is a loss to the Commonwealth. This is true not only as regards the expense of his education, but his life's work is all given to some other locality. The needs of this State are such that a smaller proportion of the graduates in civil engineering will henceforth have to leave the State than of any other department of the State College.

The work of instruction is greatly hampered by the lack of room and instructors. There is but one small room for the exclusive use of this department. This room has to be used both as a recitation room and as a draughting room and will accommodate much less than one-fourth of our students, the remainder are in other quarters by sufferance only.

We have but one regularly employed instructor in the department where at least three men of mature experience are needed to put this course on a par with others in the institution. We are doing the very best we can under most discouraging circumstances and I believe the department of civil engineering has given the State better returns for the money expended upon it than any in the College.

I trust that steps may be taken immediately to provide students in civil engineering with suitable quarters and at least two more instructors.

Respectfully submitted,

JOHN P. BROOKS,

Dean School of Civil Engineering.

Following is a list of graduates in Civil Engineering since 1899:

Leonard B. Allen, Division Engineer C. & O. R. R., Ashland, Ky.

Jos. E. Davidson, Civil Engineer, with McWilliams & Co., San Francisco, Cal.

Alex. C. Copland, Chief Draftsman C. & O. R. R., Richmond, Va.

Roy K. Maddocks, deceased.

David M. Brock, U. S. Junior Engineer, Custom House, Memphis, Tenn.

Jas. M. Graham, Locating Engineer Tidewater Railway Co., Norfolk, Va.

Anton V. Lester, Resident Engineer C & O. Railway, Richmond, Va.

George Hereford Hailey, Division Engineer Chicago & Alton Railway, Springfield, Ill.

Wade H. Perkins, Civil Engineer, Crab Orchard, Ky.

Guy W. Rice, Assistant Engineer C. & O. R. R., Hinton, W. Va.

Chas. Treas, General Manager Haity Lumber Co., Greenville, Miss.

Matthew M. Clay, Civil Engineer C., N. O. & T. P. R. R., Lexington, Ky.

Oswald T. Dunn, with Illinois Central R. R., Tie Plant, Miss.

Wm. F. Hart, Resident Engineer Illinois Central R. R., Memphis, Tenn.

Wm. N. Hughes, Assistant Paymaster U. S. Navy.

Robt. E. Moorman, Assistant Engineer C. & O. R. R., Laynesville, Ky.

Orville F. Smith, Draftsman Phoenix Bridge Co., Phoenixville, Pa.

John L. Stoner, Engineer Big Sandy Coal Co., Pikeville, Ky.

Thos. F. Finneran, Civil Engineer, with New Domain Oil Co., Jamestown, Ky.

John B. Hutchings, Architect, Louisville, Ky.

Chas. L. Peckinpugh, Transitman Arizona Eastern Ry. Home, Louisville, Ky.

Howard Kerfoot Bell, General Manager Lexington Hydraulic & Manufacturing Co., Lexington, Ky.

Amos A. Gordon, Draftsman Phoenix Bridge Co., Phoenixville, Pa.

Wm. D. Gray, Railroad Engineer, Gautemala, C. A. Home, Louisville, Ky.

Jos. G. Lewis, Civil Engineer, with Teilman & Jenson, Fresno, Cal.

Geo. W. Pickels, with Chicago & Alton Ry., Springfield, Ill.

Homer Puckett, Assistant Engineer L. & N. R. R., Atlanta, Ga.

Fred L. Schneiter, Draftsman E. & T. H. R. R., Evansville, Ind.

Wm. H. Warder, Civil Engineer New Domain Oil Co., Jamestown, Ky.

Henry J. Wurtele, Civil Engineer, with Chicago & Alton Ry., Springfield, Ill.

Geo. O. Harding, Civil Engineer, with Chicago & Alton Ry., Springfield, Ill.

Wilson B. Burt, Lieutenant U. S. A., Lexington, Ky.



JUNIOR DRAWING ROOM.

Jos. M. Coons, Transitman, with Capt. Burgess, U. S. Eng., Jeffersonville, Ind.

Walter P. Eubank, with Illinois Central Ry. Home, Cave City, Ky.

Wm. C. Kelley, Civil Engineer, with Chicago & Alton Ry., Bloomington, Ill.

Herman F. Scholtz, Student Cornell University, Ithaca, N. Y.

Elijah B. Stiles, Civil Engineer, with Chicago & Alton Ry., Springfield, Ill.

Elsie Webb, Draughtsman C., N. O. & T. P. R. R., Covington, Ky.

Hugh N. Wood, Civil Engineer, with C., N. O. & T. P. R. R., Lexington, Ky.

Chas. R. Wright, Civil Engineer, with B. & O. S-W. R. R., Washington, Ind.

ENGLISH DEPARTMENT.

LEXINGTON, KY., November 14, 1905.

President James K. Patterson:

Dear Sir: A student who graduates at the State College with English as his major study may fairly claim to have a more thorough training than he could obtain elsewhere in the State. Our excellent system of accredited schools has enabled us to raise the entrance requirements year by year, until now our standard of admission to the Freshman English class is as high as that of most of the Eastern colleges. Kentucky may at last point with reasonable pride to the fact that the entrance requirements in English are precisely the same at Harvard, Yale and the State College of Kentucky. After six years' earnest endeavor, it is gratifying to be able to affirm without hesitation that the young men and women who desire to master the essential principles of the English language and literature need no longer visit the older and wealthier colleges of the United States. Six or seven normal schools, at least a dozen private schools, and a considerable number of academies and high schools assist in preparing the youth of Kentucky for collegiate work at the State institution. So far as English is concerned, our own academy is unsurpassed as a preparatory school, the work being thorough and efficient.

Experience has shown the wisdom of making the Freshman work in English mainly utilitarian. No student can be promoted to the Sophomore class until he has mastered the technicalities of English composition, particularly spelling, punctuation and paragraphing. In addition, he must be fairly well acquainted with the leading writers of the nineteenth century. In literature, æsthetics and philology, the Sophomores and Juniors receive a training that is adapted to the average capacity of each class, while the Seniors study the fundamental principles of mental and moral philosophy. In at least two respects this department is duplicated nowhere in the South:

1. It offers a two years' Anglo-Saxon course, followed by a year in Gothic.
2. It offers a course of forty lectures on comparative literature—the only scientific study of literary art, its genesis and genius.

The following table indicates the average attendance during the years 1903-5:

Classes.	1903-4.	1904-5.
Freshman English.....	114	136
Sophomore English.....	30	22
Junior English.....	19	23
Junior Anglo-Saxon.....	8	13
Senior Anglo-Saxon.....	8	5
Senior Logic.....	46	28
Senior Comparative Philology.....	8	10
Total	233	237

The honorable members of the Legislature might possibly consider three suggestions that seem to me eminently reasonable:

1. A grant of \$800.00 per annum would provide a permanent assistant in English, and the work would be done better by a man of experience than by a fellow whose appointment is for only one year.

2. An appropriation of \$600.00 would provide the class-room with desks, and other necessary appliances. The writing that is done without the aid or support of a desk is bound to be imperfect.

3. An appropriation of \$5,000 would give the students library facilities such as they do not at present enjoy. The public library of Lexington is conducted mainly in the interest of the general public and not with a view to assist college students.

Believe me respectfully and faithfully,

A. S. MACKENZIE.

LEXINGTON, KY., November 20, 1905.

James K. Patterson, President:

Dear Sir: As this biennial report concerning your Department of Modern Languages comes due, little change has to be mentioned as to the character of the classes and their enrollment. This is a list of the studies offered:

	Enrollment, 1905.
First year of German (taught in two sections).....	61
Second year of German.....	43
First year of French.....	25
Second year of French.....	11
Spanish	26
Advanced work in German and French.....	7

Italian, which our catalogue offers as a substitute for Spanish, was not taught, because the overwhelming majority of the students interested preferred the latter of these languages.

The preparation of the students entering our Freshman class (first year

of German)—and hence also the proficiency attained during collegiate instruction—again shows a slight, though perceptible, advance over former years. In fact, a number of new matriculates now come to us with a knowledge of the elements of German (rarely of French) obtained in preparatory institutions. While this is gratifying, it shows, together with the increased valuation of a knowledge of modern languages throughout the country, that it is high time for us to advance the standard of the work required in our courses. The first step in this direction—one already urged in my last report—naturally would be, that we require a fair reading knowledge in German (attainable, at that age, in a two-years' course) as an entrance condition to our College. One assistant, exclusively appointed to teach modern languages, might give the necessary instruction (two hours a day) in our Academy, and still lend sufficient aid in the College. I am much pleased to learn that the appointment of such an assistant has been taken under advisement.

The sum appropriated by the Board of Trustees for this department (\$100) was spent, this year, for a proper equipment of the class-room. It will be ample, in the near future, to provide for the necessary additions to the department library, mainly to be used in advanced work.

As yet our engineering students receive no training in modern languages. The amount of practical work compressed into the short space of their four-years' course makes such demands upon their time as to crowd out this branch of education, which would prove very useful to them. This serious deficiency will demand correction at an early opportunity.

Nevertheless, the above numbers show that 140 students receive instruction in the required branches of our department (first and second years of German and French), while thirty-three more have registered for a language as an elective study (Spanish, advanced German or French).

These numbers would almost warrant the appointment of a second instructor, even if the additional instruction in the Academy (mentioned above) had not to be provided for.

Very respectfully submitted by

P. WERNICKE,

Professor of German and French.

LEXINGTON, KY., November 1, 1905.

President James K. Patterson:

Dear Sir: I herewith transmit, at your request, report of the Department of Geology and Zoölogy for collegiate year 1904-5 and fall of 1905.

Instruction has been given to students in classes as follows:

	Year 1904-5	Fall of 1905
Zoölogy, First Term.....	16	10
Osteology, First Term.....	3	6
Geology for Classics.....	12	17
Geology for Scientifics.....		6
Palaeontology, Second Term.....	6	
Geology (Economic), Second Term.....	23	
Zoölogy (Laboratory), Second Term.....	23	
Zoölogy (Thesis), Third Term.....	8	
Mineralogy, Third Term.....	12	

The Department of Entomology, formerly in charge of Prof. Garman of the Experiment Station, voluntarily given up by him, has been attached to the Department of Zoölogy and put in charge of Miss McCann, Assistant in that Department. Most of the entomological work comes in the second and third terms, and preparation is being made to handle the increased number of students in the economic phases of this subject which the largely increased matriculation in Agriculture lead us to anticipate. The adding of this department to that of Zoölogy makes it imperative that at no very distant date an additional room be assigned to Entomology exclusively. A separate building for Mining Engineering, by setting free the lecture-room formerly allotted to the Department of Zoölogy, would provide this additional space. Also, anything that develops the course in Mining Engineering strengthens the geological side of my work.

Respectfully,

ARTHUR M. MILLER.

LEXINGTON, KY., November 14, 1905.

President James K. Patterson:

Dear Sir: Complying with your request for a report of the work done in this College in the Department of Mathematics during the last two years, I respectfully submit the following:

The requirements for admission to Freshman class are a thorough knowledge of arithmetic, of algebra through quadratic equations as presented in Fisher and Schwatt's Higher Algebra, and of plane geometry as presented in Book I. to V. in Beman and Smith's Geometry.

Students entering my class from our Academy and from the best high schools and from some private schools are well prepared for College work, but the deficiencies of others are quite marked. The number of well prepared students entering my classes is, I am glad to say, gradually increasing.

The enrollment by classes for the past two years was as follows:

Freshman.	1903-4.	1904-5.
Plane Trigonometry.....	121	145
Solid Geometry.....	112	123
Higher Algebra.....	97	127

Sophomore.	1903-4.	1904-5.
Analytics	83	86
Descriptive Geometry.....	57	63
Calculus	64	57

Junior.	1903-4.	1904-5.
Calculus	54	52

Senior.	1903-4.	1904-5.
Sph. Trigonometry and Astronomy.....	36	18

The number of students reciting in a section is generally between twenty-five and thirty. Much better results could be obtained if we had the rooms and instructors to enable me to limit the number of students to fifteen per section.

By using appropriations for my department during the past three years, I have purchased a new 8-inch refracting telescope for this institution. It is, I believe, the largest instrument of its kind in our State and it should be housed in a suitable observatory. When mounted, it will, I believe, prove of great service to our students as well as of interest to our friends visiting the College. A small but good observatory will cost from \$1,500 to \$2,000. I hope our trustees will include this amount in their appeal to our Legislature for money.

Respectfully yours,

JAS. G. WHITE,

Prof. of Mathematics and Astronomy.

LEXINGTON, KY., November 15, 1905.

President James K. Patterson:

Dear Sir: The enrollment of students in scientific work during the past two years is about the same as reported two years ago. As the several professors engaged in scientific work will present in their reports the work done by them and the needs of their respective departments, it is unnecessary for me to do more than to refer you to their reports. From these you will see that most of our students are doing good work.

The excellent positions secured by our graduates is an evidence that they have received careful training in chemistry and in other branches of Science.

A short time after the close of our last session, Professor Joseph H. Kastle resigned his position as Professor of Chemistry to accept the position of Director of Chemical Division of Hygienic Laboratory, Washington, D. C. Professor Kastle graduated from this College in 1884 and received his M. S. degree in June, 1886. Two years later he graduated from Johns Hopkins University as Doctor of Philosophy. By his research work in our Chemical Laboratory he soon became one of the leading chemists of our country. His call to such a position in Washington is a just tribute to his worth as a man and as a chemist. During his years of service in this College he was an important factor in its growth. He not only endeared himself in many ways to his fellow professors, but I may safely say that he has the love and admiration of every student who recited to him.

Dr. Chase Palmer, also a Ph. D. of Johns Hopkins University, a chemist of experience and ability, as shown by his chemical work in Louisville and afterward in Central University at Danville, Ky., takes Dr. Kastle's place with us, and he is rapidly giving promise of being a worthy successor to Dr. Kastle.

Within the past two years the Experiment Station has been moved to its elegant new building near the College campus. This has relieved the crowded condition of our Chemical Department. The other departments of scientific work have suitable rooms and well-equipped laboratories, except the Department of Physics. Some of the classes in this department are large, and Professor Pence finds it impossible to give such instruction as he desires. Hoping that our Legislature will give us the means to provide ample instruction in this important branch of science, I am

Yours truly,

JAMES G. WHITE, Dean.

LEXINGTON, KY., November 1, 1905.

President James K. Patterson, State College of Kentucky:

Dear Sir: I have the honor to submit herewith the report of the Normal Department of the State College of Kentucky for the years 1903-4 and 1904-5. This includes both the Normal School proper and the Collegiate Course in Pedagogy.

STATISTICS.

1903-4.

Course of Study.	No. of Students	No. of Counties
	Enrolled.	Represented.
County Certificate.....	56	31
State Certificate.....	36	26
State Diploma.....	17	11
Bachelor of Pedagogy.....	15	10
Summer School.....	29	19
Number of counties represented in more than one course.....		30
Total for the year.....	153	67

1904-5.

County Certificate.....	40	31
State Certificate.....	21	16
State Diploma.....	26	17
Bachelor of Pedagogy.....	10	10
Summer School.....	36	24
Number of counties represented in more than one course.....		41
Total for the year.....	133	57

NEEDS.

A New Building.—This department is at present quartered in two rooms in the Main Building of the College. These quarters are wholly inadequate to the needs of the department.

Our Honorable Superintendent of Public Instruction informed me recently that last year about one thousand public schools in Kentucky were unable to secure teachers qualified to pass the required examinations for certificate. He estimates from reports already received that probably six hundred schools in the State are going untaught this year for lack of competent teachers. Estimating forty pupils to each of these districts (certainly a low estimate), we find ourselves confronted by the appalling fact that to-day 24,000 children in Kentucky are deprived of the privilege of attending school, for the simple reason that competent teachers could not be secured. The citizens of Kentucky are looking to the State College to supply this most urgent need. It can not be done in two or three small rooms. Therefore, the most urgent need of the department is a new building with capacity to meet the demands of the situation. To erect such a building would cost about \$40,000, and to equip it properly would cost about \$10,000 more.

Facilities for Professional Training.—A large majority of the students who

enter this department have, before coming here, been taught only in the district schools of the State. In many instances the only schools they have ever seen were poorly organized and poorly conducted. On coming here they enter a department of the College. Consequently they have no opportunity to observe the methods of conducting the schools which fill the great gap between the rural school and the college, and yet these are the schools in which they are most likely to be engaged to teach when they leave college. To correct this defect there should be established in connection with this department model schools, in which our students may, by observation and practice, become acquainted with the best methods of conducting schools of every kind and grade. It is impossible to organize a successful model school in our present quarters. Hence, the importance of meeting the first need by the erection of a new building so this one may also be satisfactorily met.

A Bureau of Appointments.—It is believed that the interests of public education in Kentucky can be greatly promoted by the establishment of a reliable teachers' bureau in connection with this department. We are glad to report that arrangements are being made to open such a bureau the first of January, 1906. We expect this bureau to serve as a medium of communication between teachers and school officers and thereby assist in placing our best teachers in the most responsible positions.

Very respectfully,

MILFORD WHITE,

Dean of the Normal Department, State College of Kentucky.

LEXINGTON, KY., November 16, 1905.

President James K. Patterson:

Dear Sir: As Dean of the Classical Faculty and Professor of Greek and Latin, I submit to you, for the Governor and General Assembly of the Commonwealth, a brief report of the students, studies, aims and needs of the Classical Department for the two years beginning June 1, 1903, and ending June 1, 1905.

Yours respectfully,

JOHN H. NEVILLE,

Dean and Professor.

1. STUDENTS.

Year.	Post-Grad.	Seniors.	Juniors.	Soph.	Freshmen.	Totals.
1903-1904.....	3	18	14	21	20	76
1904-1905.....	8	16	16	14	26	74

(1905-1906, total to this date, 88).

2. STUDIES.

PREPARATORY (TWO YEARS) COURSE.

Latin: Grammar, Viri Romae, Nepos, Cæsar, Composition, History. Greek: Grammar, Reader, Xenophon, Exercises, History.

COLLEGIATE (FOUR YEAR) COURSE.

Freshman Class—Latin: Cicero, Ovid, Livy, Scanning, Composition, Roman Life. Greek: The Iliad, Herodotus, Plato, Exercises in Syntax.

Sophomore Class—Latin: The Aeneid, Cicero, Plautus, Suetonius, Sallust. Greek: Lysias, Demosthenes, Xenophon, Lucian.

Junior Class—Latin: Horace, Letters of Cicero, or of Pliny, Composition. Greek: Thucydides, Theocritus, Bion and Moschus.

Senior Class—Latin: Tacitus, Juvenal, Seneca, Catullus, Composition. Greek: Three Dramas, Prometheus, Medea, Oedipus or Antigone.

Two years of French and two of German may be substituted for four of Greek.

3. AIMS.

The courses in Latin and Greek are intended to equal in extent, variety and thoroughness those of the best land-grant colleges.

The curriculum leading to the classical degree of A. B. embraces Latin, Greek, English, French, German, History, Political Economy, Metaphysics, Mathematics and the elements of Physical Science in Chemistry, Physics, Physiology, Astronomy, Botany, Zoölogy and Geology; and it is designed to meet the needs of students who are to become teachers, preachers, lawyers, physicians, journalists, writers or scholars, or, it may be, legislators or authors.

The degree of A. M. is conferred upon students who, having attained the degree of A. B., pursue a prescribed course of studies for one year in the College or two years elsewhere, and satisfy the faculty by thesis or examination that they are duly proficient.

4. NEEDS.

The Classical Department needs what every department of every college and university in the State needs—well-prepared students. It is questionable whether students come to college as well prepared as they came fifty years ago, and it is certain that if the work done in college is ever to be satisfactory in amount and quality, the secondary schools of the State must be greatly multiplied and improved, and that their multiplication and improvement will be the result of slow and painful evolution, the colleges constantly and inflexibly insisting on better work in the schools accredited to them. This is the dreary and inevitable prospect before us, unless some enormously rich man shall, with \$20,000,000, establish, throughout the States west and south of Pennsylvania, for each million of people, or even in each State, a school of the type of the Phillips Exeter Academy. He would prove to be

a far greater educational factor than all the Stanfords and Rockefellers put together, for his benefaction would reach and bless a hundred times more recipients.

Lest some one may suppose that classical learning is dying out, or is deemed of inferior importance, in our practical country, some striking statistics are hereto appended: In 1903, the last year reported by the National Commissioner of Education, there were in 513 colleges, universities and technological schools of the United States 114,130 students; in classical courses 51,152; in other culture courses, 13,605; in general science, 7,397; in mechanical engineering, 6,800; in civil, 5,378; in electrical, 3,652; in mining, 2,244; in agriculture, 3,306.

Respectfully submitted,

JOHN H. NEVILLE.

LEXINGTON, KY., November 20, 1905.

President James K. Patterson:

Dear Sir: I herewith submit the biennial report of the Department of Anatomy and Physiology for the years 1903-4, 1904-5 and the present term of 1905.

ENROLLMENT.

	Session 1903-4.	Session 1904-5.	Fall Term, 1905.
Freshman	22	26	..
Sophomore ...	36	15	48
Junior	1	2	4
Senior	6	1	4
Normal	50	34	17
	<hr/>	<hr/>	<hr/>
Total	115	78	73

EQUIPMENT AND FACILITIES.

Additions to the equipment which have been set forth in the catalogue, with which you are no doubt familiar, have been made from the appropriation set aside for this department each year. Care has been taken that the apparatus purchased is the best that can be obtained.

At the present time we are fully equipped and prepared to give instruction in anatomy and physiology equal to other institutions in the South or West.

MEDICAL PREPARATIVE BULLETIN.

In June, 1903, a bulletin was issued from the department, outlining a course leading to the degree of Bachelor of Science, with anatomy and physiology as the major study.

This course has received a liberal patronage, but nothing like the num-

ber that is desired. While a good proportion of those matriculating in the science course have selected anatomy and physiology as their major study, there are not as many students taking scientific work as there should be.

At a recent meeting of the Kentucky State Medical Society, held in the city of Louisville, I read a paper upon the subject of "College Education Preparatory to the Study of Medicine." The advantages of the course presented by the State College, which is preparatory to the study of medicine, and set forth in the bulletin, were given in full.

This was well received and elicited a lengthy discussion. There was some friendly criticism, but in the main it was approved by the society.

RESEARCH.

In June, 1905, a bulletin, entitled "The Development of the Bones of the Hand as Shown by the X-ray Method," was issued from the laboratory of anatomy and physiology.

Scientific investigation should be an important feature of this department. While it is our aim to instruct and interest the student, we also attempt to develop an investigating turn of mind and foster the desire for research and original work which has been excited, and encourage the student in this ambition.

I have no recommendations to make at the present time. There has been no sickness in the dormitories. The buildings and surroundings are kept in a good sanitary condition.

This is evidenced by the continued good health of the students.

Respectfully submitted,

J. M. PRYOR, M. D.,

Prof. Anatomy and Physiology.

LEXINGTON, KY., October 23, 1905.

President James K. Patterson:

Dear Sir: In compliance with your request, I have the honor to submit the following statement of the organization of the Academy, and a summary of the work done and the results obtained for the two years ending June 1, 1905:

Sections 11 and 14 of "An Act to provide for the effective management and administration of the Agricultural and Mechanical College of Kentucky," approved May 9, 1893, provide that, "An academy or preparatory department to prepare students for the regular courses of study in the College shall be established and maintained in connection with the College, under a competent principal and assistants and under the general supervision and control of the faculty thereof: Provided, that no standard of admission into the academy shall exclude from the benefits of this act county appointees who have completed the course of study prescribed by law for the common schools of the Commonwealth."

In accordance with the foregoing, the Board of Trustees has appointed a principal and three assistants, and has approved the following requirements for admission and courses of study:

REQUIREMENTS FOR ADMISSION.

The courses of study in the Academy are provided for those who enter directly from the common schools and are intended to supply the necessary training intermediate between the Freshman class of the College and the course of study prescribed by the State Board of Education for the common schools.

Every applicant, to be admitted to the Academy, is required to pass a satisfactory examination in Spelling, Reading, Writing, Geography, History of the United States, English Grammar, and Arithmetic.

County appointees must present certificates of appointment, made on actual examination held in pursuance of law by a County Board of Examiners, duly appointed for that purpose by the County Superintendent.

Applicants from the public schools of Lexington must present certificates from the School Board setting forth that they have completed the Eighth-grade studies.

Other applicants must present certificates from their County Superintendent, or from the principal of their High School, setting forth that they have completed the common-school course prescribed by the State Board of Education.

COURSES OF STUDY.

I. SCIENTIFIC COURSE.

First Year.—Arithmetic, Wells' Academic; Algebra, Fisher and Schwatt's Higher, to Chapter XII; Political and Descriptive Geography, Butler's Complete; History of the United States, Eggleston; English Grammar, Patterson's Advanced.

Second Year.—Algebra, Fisher and Schwatt's Higher, to Chapter XXV; Plane Geometry, Beman and Smith; Physical Geography, Tarr; General History, Anderson; Rhetoric, Genung; Synonyms, Graham.

II. CLASSICAL COURSE.

First Year.—Latin Grammar, Smiley and Storke; Viri Romae, or Scudder's Gradatin, or D'Ooge's Easy Latin; White's Beginner's Greek Book; Arithmetic, Wells' Academic; Algebra, Fisher and Schwatt's Higher, to Chapter XII; English Grammar, Patterson's Advanced.

Second Year.—Latin Grammar continued; Nepos; Caesar; Daniell's New Latin Composition; Greek Grammar continued; Jacob's Greek Reader; Xenophon's Anabasis; Algebra, Fisher and Schwatt's Higher, to Chapter XXV; Plane Geometry, Beman and Smith; Rhetoric, Genung; Synonyms, Graham.

First Year.—Coleridge's *Ancient Mariner*, in class, and Scott's *Ivanhoe*, parallel.

Second Year.—Shakespeare's *Merchant of Venice*, Macaulay's *Essay on Addison*, Addison's *Sir Roger de Coverley Papers*, Tennyson's *Princess*, Milton's *Lycidas*, in class; George Eliot's *Silas Marner* and Goldsmith's *Vicar of Wakefield*, parallel.

ENROLLMENT.

	1903-4	1904-5
Total enrollment.....	132	99
Number of males.....	118	92
Number of females.....	14	7
Number of counties in the State represented....	44	48

CLASSIFICATION.

Number of first-year students.....	71	47
Number of second-year students.....	61	52
Number of scientific students.....	85	62
Number of classical students.....	47	37

The following tabular statements, show in concise form the subjects taught and the results obtained:

	1903-1904				1904-1905			
	Total Enrollment	Average Daily Attendance	Number Examined	Number Passed	Total Enrollment	Average Daily Attendance	Number Examined	Number Passed
FIRST YEAR—								
English Grammar.....	63	51	45	37	36	28	26	22
Latin Grammar and <i>Viri Romae</i>	37	28	21	11	34	28	22	18
Greek Grammar.....	4	2	1	1	13	10	10	10
Political and Descriptive Geography..	31	29	28	21	22	19	19	13
United States History.....	30	27	23	21	22	20	17	13
Arithmetic	68	59	49	33	48	40	35	20
Algebra	62	51	40	22	56	43	33	24
SECOND YEAR—								
Rhetoric and Synonyms.....	69	56	48	28	68	59	50	45
Nepos	10	9	10	3	12	11	11	9
Caesar and Latin Composition.....	10	9	7	2	12	11	11	10
Greek Reader.....	.....	.....	.....	.....	1	1	1	1
Anabasis .....	.....	.....	.....	.....	1	1	1	1
Physical Geography.....	42	38	36	32	31	30	31	27
General History.....	38	29	27	22	31	27	27	24
Algebra	57	50	36	23	48	40	37	33
Plane Geometry.....	65	52	41	28	55	47	43	38

Section 14 of the charter provides: "The selection of the beneficiaries shall be made by the superintendents of the common schools in their respective counties, upon competitive examination, on subjects prepared by the Faculty of the College, and transmitted to said superintendents before the first day of June of each year.

"Preference shall be given, other things being equal, to those who have passed with credit through the public schools, persons of energy and industry, whose means are small, to aid whom in obtaining a good education this provision is intended. It shall be the duty of the County Superintendent to make known the benefits of this provision to each school district under his superintendency, with the time and place, when and where such competitive examination shall be held. He shall, for this purpose, appoint a board of examiners, whose duty it shall be to conduct the examination."

The Ferguson Act of March 21, 1902, imposing a penalty on County Superintendents who fail to perform the duties required of them under the section recited above, has already borne good fruit. Since the law became operative, the quality and preparation of the county appointees who have applied for admission to the Academy are far better than they were before the law was passed.

Respectfully,

WALTER KENNEDY PATTERSON,

Principal.

President James K. Patterson, Ph. D., LL. D., President of the A. and M. College, Lexington, Ky.:

Dear Sir: I submit herewith the biennial report of the Experiment Station for the report to the Legislature, being from July 1, 1903, to July 1, 1905.

The Experiment Station is a department of the State College. The Board of Trustees of the College has general charge of its affairs. This Board appoints annually a committee, called the Board of Control, to take immediate charge. The work of the Station is done by the Station staff. Its members consist of the following:

President of the College.

M. A. Scovell, Director and Chemist.

A. M. Peter, Chemist.

H. E. Curtis, Chemist.

H. Garman, Entomologist and Botanist.

*J. N. Harper, Agriculturist.

W. H. Scherffius, Chemist.

R. M. Allen, Secretary Food Division.

J. D. Turner, Secretary.

J. O. LaBach, Chemist.

*George Robert, Assistant Chemist.

*Resigned to take better positions.

Miss Mary L. Didlake, Assistant Entomologist and Botanist.

S. D. Averitt, Assistant Chemist.

*D. W. May, Animal Husbandman.

O. M. Shedd, Assistant Chemist.

*G. N. Keller, Assistant Entomologist and Botanist.

Since the last report a new Station building has been erected. The building was completed early in 1905, and we are now comfortably quartered in it. Under the crowded condition of our old quarters it was difficult to do satisfactory work. We had two small chemical laboratories for research work, for fertilizer analysis and for food control work. Our books were stacked for want of shelf room, making our library almost useless. Several of our Station force were without offices. This condition had existed for the last few years, and the difficulties grew more each year as the work of the Station increased.

The work of preparing the farm for experimental purposes is nearly completed, and we have now a considerable amount under experiment.

In order to carry on the work of the Station systematically, the work has been divided into the following divisions:

Division of Correspondence.

Division of Chemistry.

Division of Entomology and Botany.

Division of Horticulture.

Division of Agriculture.

Division of Animal Husbandry.

Division of Fertilizer Control Work.

Division of Food Control Work.

Under these heads the Station is doing work for the farmers of the State in various ways. It is endeavoring to keep in touch with them by correspondence. The farmers send in inquiries, and the Station takes pains to give them all information at its command. The inquiries cover a large and varied field. Probably the greatest number, however, are in regard to the improvement of the soils, closely followed by inquiries about injurious insects and diseases of plants. The Station is, and has been for several years, making a careful study of the soils of the State in order to show the farmers how their soils may become more fertile. In order to do this, careful experiments have been carried on in different parts of the State with the farmers to show what the soils in certain sections really needed to restore them to their original fertility. Some positive results have been obtained. For instance, it has been shown conclusively that in the bluegrass region where the soil is worn it needs most of all potash to restore its fertility, and some instances potash and nitrogen, but the phosphoric acid is in sufficient quantity in our bluegrass soils. In the southern part of Kentucky, as in southern Christian county, the soil has been found to be deficient in phosphoric acid, while in some sections of the State all three of the

*Resigned to take better positions.

essential fertilizer ingredients, namely—nitrogen, potash and phosphoric acid, are needed to increase the productiveness of the soils, and, if used intelligently, can be applied profitably to such soils.

The Station recommends that where nitrogen is needed a careful rotation of crops will bring about renewed fertility of soils—one of the rotations to be clover, cow peas or alfalfa, as clover and leguminous plants, in general, are able to gather the nitrogen from the atmosphere and give it to the soils for future crops. In all cases it has been shown that the rotation of crops is essential to permanent soil fertility, but of course it is not always necessary that this rotation be made in order to supply plant food, as, for instance, a soil that needs phosphoric acid can receive this by using bone or acid phosphate, but if the fertilizer be applied continually from year to year on the same crop, the physical condition of the soil becomes such that the crops do not grow well, in spite of the fact that they may have plenty of plant food. Consequently, our experiments have demonstrated that where artificial fertilizers are used, either to supply phosphoric acid, or nitrogen, or potash, or any two or all three of them, a judicious rotation of crops is essential to produce best results.

The question of soil fertility is of the greatest importance, and the Station realizes that it will take years to reach the results desired with the funds at its disposal, and at present it will be impossible to do the work as rapidly as we wish it might be done.

The Station has called the attention of the farmer also to the waste products that may be used as manure, as tobacco stems and other waste products of the farm. It has recommended, from time to time, that the best possible way to give and maintain the fertility of the soil is to feed the products of the farm on the farm rather than sell them off of the farm; that where the products are fed to cattle, either for beef or dairy, there is very little soil fertility removed from the soil, and where a large number of animals are kept on a farm, so that the farmer is compelled to buy bran, corn and fodder to feed the animals, such farms are being enriched continually, if the manure is preserved and judiciously applied.

The Department of Entomology and Botany has been of great benefit to the farmers in preventing the ravages of insects and the destruction of crops by fungus diseases. A large quantity of chinch bug fungus has been distributed, and this distribution has now extended over six years. In many cases reports have come in of the good effects of this fungus. Almost daily, specimens of weeds, grasses and insects have been sent here for identification. All such specimens have been examined and the parties sending them have been given all the information possible. Not only the name of the specimen is given, but if the specimen is injurious to crops, the best method of destroying or eradicating the same is fully discussed for the benefit of the party sending the sample.

In the chemical division, the samples of minerals, clays, rocks of various kinds, waters and fertilizers which are sent by the farmers, are identified free of charge. In the case of mineral waters, we examine the sample to see whether they have mineral properties or not, but we do not determine the amount of each ingredient unless it is of public benefit.



FOUNDRY.

On the farm the station is carrying on series of experiments endeavoring to improve the wheat plant, especially as to its yield and quality as a flour producer. Repeated experiments have shown that a careful selection of wheat heads from year to year and the selection of the best kernels in these heads will produce increased yields and quality.

The same experiments are being made with corn. These are being carried on in cooperation with the United States Department of Agriculture. The results along this line obtained by the various stations in the corn belt have shown that corn will readily respond as to yield by a judicious selection of seed. It has been shown that in general farmers lose much every year by carelessness in selecting seed corn. The time will come, I believe, when the station will be asked to determine the germinating quality of the seed corn in the State. It has been shown that of two ears selected from the same field and planted under the same conditions in the same soil, one will produce much the greater yield. Then how important it is for the farmer to select his seed corn.

It is confidently believed that the farmers of the State would save thousands of dollars every year if they would scientifically select and plant only the very best corn as seed.

Another plant which is responding rapidly to scientific treatment is tobacco. The tobacco plant is very susceptible to improvement by the judicious and careful selection of seed. Enough experiments have been made to conclude that if care is taken in order to self fertilize good plants in a tobacco field, the seeds of such self-fertilized plants will produce the same quality of tobacco as the parent plant. Whereas, if the seed is not self fertilized, an inferior plant may be produced. The station is making many experiments in this line. Kentucky raise a large portion of the tobacco of the country, but the average price is far below what it should be on account of the quality produced. Our study so far shows that the farmer gives very little attention to raising a good quality of tobacco.

Beside the work of the station proper, it has charge of the enforcement of four enactments of the Kentucky Legislature.

1. An act regulating the sale of fertilizers in the State.
2. An act regulating the manufacture and sale of the foods in the State.
3. Inspection of nursery stock in the State.
4. Inspection of seeds.

THE FERTILIZER CONTROL WORK.

The fertilizer control work is of much importance to the State, and I am pleased to state that the regulation as to the sale of fertilizer is well under control. We have no complaints as to the manner of the enforcement of the law, and few as to inferior goods. In order to make thorough inspection, we do not depend upon the samples sent here by the manufacturers, but send inspectors in the various parts of the State to take samples in the hands of the retail merchants, or sometimes from the wagons as they are sold to the farmers. These samples are analyzed and the results are published in the form of a bulletin giving the name of the fertilizer, the

name and address of the manufacturer, from whom obtained, the guaranteed analysis, the amount found of each fertilizer ingredient and the estimated value per ton. If any sample falls below the guaranteed analysis, attention is called to the fact in the bulletin.

The income from the fertilizer control work in 1903 was \$15,976.50; for 1904, \$18,040.30. In 1903, the number of tags issued was 659,734; in 1904, 636,284. There have been over 50 samples sent in by the farmers for analysis during the two years. The total number of analyses made was 720.

THE FOOD CONTROL WORK.

The new work which the act of 1898 presented, with no precedent rules to guide its organization, is being brought under an effective system as to our knowledge of the manufacture and distribution and adulteration of food increases. We are now beginning to get substantial results. By strict enforcement of the law, coloring matter and antiseptics have been taken out of fruits and vegetable products. The elimination of coloring matter and antiseptics from these products means that Kentucky is getting jellies, catsups and canned stuffs made from fresh, ripe materials instead of stored pulp, starch, cores, peelings, or the green and sometimes the rotten fruits and vegetables from which it is possible to make such products when coal tar dyes and preservatives are used. Formerly, most of our honeys were adulterated, but now there is scarcely an instance of adulterated honey in the market, and better grades of New Orleans and sorghum molasses are found in the Kentucky markets.

Each regular inspection of the milk supply of the State shows the effect of the enforcement of the law. In our first inspections, we found many samples of milk containing formaldehyde, freezine and iceine and other preservatives, and many samples that were colored and looked like milk or cream which often had less than 2 per cent. fat in them. Now our inspectors rarely find watered milk or skimmed milk sold as milk.

Heretofore, we have found sausage, ham and cured meats of all kinds containing boracic acid, but lately the packers have agreed to eliminate boracic acid from the meats sent into Kentucky. This is certainly a triumph for the food law. It means the elimination of all but the best meats, as only the best cured meats can be preserved without the addition of antiseptics.

The labeling provision of the Kentucky pure food law was a wise enactment. The manufacturers sometimes dispute the attributed reason for using coal tar dyes and antiseptics as to the effect of these substances upon health, but they have been unable to show any reason why the consumer should not know it whenever these substances are used. It has been difficult at all times to enforce this provision of the law, and some of the manufacturers try to evade it by giving the information in technical terms or small type, and often inserting it in the body of other reading matter. The station insists that all labeling must be plain so as to be readily understood by the average purchaser. In this we have been upheld by the courts.

During the year of 1904, 465 samples, and in 1905, 671 samples, were taken for analysis. Three hundred samples collected in 1903 were analyzed

in 1904, and, in addition to the samples collected, 49 samples were sent to the station for analysis by consumers, making 814 samples analyzed in 1904, of which 221 were found to be adulterated. Of the 671 sample collected in 1905 for analysis, 392 have been completed. Out of the 392 samples, 102 were found to be adulterated and so were reported to the Commonwealth attorneys over the State.

The results show that there is a large decrease in the percentage of adulteration. This summary is given as an example of the work. As required by law, a detail report of the work is in preparation to be submitted to the Governor.

INSPECTION OF NURSERY STOCK IN THE STATE.

Professor Garman has charge of the inspection of the nursery stock in the State. Only expenses are allowed by the State for this work. Professor Garman's salary is paid out of the Federal fund and the Department of Agriculture which has supervision of the Federal funds, is of the opinion that Professor Garman should not give directly his time to the inspection of the nursery stock, as the Federal fund from which his salary comes is for the purpose of investigation rather than inspection. The law therefore in regard to the inspection of nursery stock of the State should be changed and, if the State desires that this work should be continued, an appropriation should be made to pay an assistant to help do this work.

INSPECTION OF SEEDS.

The last Legislature has passed a law in regard to the inspection of seeds and placed its enforcement in the hands of the Experiment Station, but provided no funds for the inspection. The station, however, has undertaken the work without funds specially appropriated for this purpose and in 1904 examined 119 samples. In 1905, 281 samples were collected, making a total of 400 samples since the law went into effect. Most of the samples have been found to be adulterated. The law, as it stands, is very imperfect, but the results of our work have shown the necessity of having the seeds of the State examined.

PUBLICATIONS.

The station publishes from time to time bulletins giving the results of the station's work and sends them to every citizen of the State who may express a desire of receiving them. Our mailing list is increasing continually and it is hoped that the time will come when at least 50,000 farmers of the State may receive these bulletins. The following bulletins have been published since July 1, 1903:

Bulletin No. 108.—Some Results in Steer Feeding.

Bulletin No. 109.—Commercial Fertilizers.

Bulletin No. 110.—Nursery Inspection and San Jose Scale.

Bulletin No. 111.—Hessian Fly in 1902-1903.

Bulletin No. 112.—Commercial Fertilizers.

Bulletin No. 114.—Insects Injurious to Cabbage.

Bulletin No. 115.—Wheat: Field Test of Varieties.

Bulletin No. 116—1. Injury to Fruits by Insects and Birds. 2. Appletree Measuring Worm. 3. The Fall Beauty—A New Apple.

Bulletin No. 117.—Commercial Fertilizers.

Bulletin No. 118.—Corn: Field Test.

Bulletin No. 119.—Labels on Adulterated and Imitation Foods Sold in Kentucky.

Bulletin No. 120.—Some Wood and Tree Infecting Insects. 2. Cabbage Snake.

Thirteenth Annual Report.

RECOMMENDATIONS.

1. As stated heretofore in this report, one of the greatest problems before the Experiment Station is the matter of soil fertility. This subject has been receiving the attention of the Experiment Stations in the North and West, and the Legislature of Illinois, at its last session, appropriated \$40,000 to the Experiment Station for the purpose of making a very thorough soil survey of the State. Iowa has also made a large appropriation for the support of the Experiment Station in this work; so has Wisconsin, Minnesota and Missouri.

The soils of Kentucky have been longer under cultivation than the States above mentioned, and we find that our soils in many instances do not produce as good crops as they formerly did. If Kentucky is to keep apace with the agricultural States, she must learn to improve her soils in modern ways. This station is doing all it can possibly do with the funds at present available. We have always given much attention to this work, but the demand for it has increased beyond our ability to meet it. Within the last two years, we have made nearly one hundred analyses of soils from various parts of the State; some results have been striking. The State should be divided into various divisions and in each division should be a sub-station for the purpose of studying the soil fertility. Illinois has undertaken this work in this way. The principal work, as analysis of soils, etc., is carried on at the Experiment Station proper, but the field experiments, under charge of thoroughly competent Experiment Station men, are carried on in various parts of the State. If there could be \$10,000 available a year for this work, I believe in a short time we would be able to obtain results which would be worth hundreds of thousands of dollars each year to the State. In connection with the fertilizer control work, we can do some of this work. If there are no other funds available, we can at least put one man in charge who should devote his whole time in the study of fertilizers in the various geological formations of the State, but heretofore it has been impossible to do this, as the money was needed to put up buildings and to buy land for the station. We are now in a position to devote more time to this special feature of our work. With modern methods of

chemical analysis, much can be learned by chemical investigation on soils, but to be of value such soils should be typical. A soil survey of the State, in connection with the geological survey, would be of great help, especially if soil samples could be taken by one of our men accompanying a geologist who can give all of the detail as to the geological formation. Nothing helps more than a careful geological survey, and I would suggest that in the appropriation for the geological survey, provision be made for this work.

2. I would recommend that the inspection of the nursery stock law be so amended as to provide sufficient funds for the expense of a thorough inspection and an assistant to assist in the work. It is impossible for Professor Garman to give the time to it that is necessary.

3. The law in regard to the inspection of seeds should be enlarged. It should cover the adulteration of all seeds and the germination qualities also; and provision should be made in the law for expenses necessary to carry on the work.

4. The fertilizer and food laws are working satisfactorily and I would make no suggestion as to changes in them, except possibly that there should be a separate law in regard to cattle feed. While our present food law covers this in some respect, it is not explicit enough. Many States have passed cattle feed laws. From our work here it is evident that it is necessary to inspect cattle feed, especially the mixed feeds. We found in many instances where bran was adulterated with corn-cob meal and being sold as bran. A striking example of this was found in Elizabethtown. A certain firm bought a mixed feed from a Louisville firm and sold it as bran. It was properly labeled when it left Louisville, and even in the store of the seller, but when a dairyman or farmer called for bran, this mixed feed was given him and, just before it was delivered, the tags were torn off the sacks. This is only one of many instances we have discovered during the last year. From the results of our work, I believe we should have a separate law covering the sale of stock feeds in this State.

Respectfully submitted,

M. A. SCOVELL,

Director.

Federal Account.

Ledgerized statement of the receipts and expenditures of the Federal account from July 1, 1903, to June 30, 1904.

Receipts for the year ending June 30, 1904..... \$15,000 00

Expenditures for the year ending June 30, 1904:

Salaries	\$11,961 67	
Labor	738 09	
Publications	444 87	
Postage and stationery.....	183 40	
Freight and express.....	46 73	
Heat, light, water and power.....	401 20	
Chemical supplies.....	70 71	
Seed, plants and sundry supplies.....	296 84	
Feeding stuff.....	64 00	
Library	474 40	
Tools, implements and machinery.....	43 05	
Scientific apparatus.....	149 56	
Traveling expenses.....	6 29	
Contingent expenses.....	117 39	
Building and repairs.....	1 80	
		<u>\$15,000 00</u>

Ledgerized statement of the receipts and expenditures of the Federal account from July 1, 1904, to June 30, 1905.

Receipts for the year ending June 30, 1905..... \$15,000 00

Expenditures for the year ending June 30, 1905:

Salaries	\$11,650 00	
Labor	242 16	
Publications	1,224 84	
Postage and stationery.....	216 70	
Freight and express.....	49 71	
Heat, light and water.....	400 13	
Chemical supplies.....	184 52	
Seed, plants and sundry supplies.....	127 46	
Library	370 20	
Tools, implements and machinery.....	24 60	
Furniture and fixtures.....	85 50	
Scientific apparatus.....	25 60	
Traveling expenses.....	75 73	
Contingent expenses.....	116 35	
Building and repairs.....	206 50	
		<u>\$15,000 00</u>

Fertilizer Account.

Ledgerized statement of the receipts and expenditures of the fertilizer account from July 1, 1903, to December 31, 1903.

Balance on hand July 1, 1903.....	\$ 4,005 92
Receipts July 1, 1903, to January 1, 1904.....	6,370 00
	<hr/>
	\$10,375 92

Expenditures July 1, 1903, to January 1, 1904:

Salaries	\$2,729 16
Labor	2,243 86
Publications	1,006 30
Printing tags, etc.....	363 32
Stationery	44 50
Freight and express.....	12 05
Chemical apparatus and supplies.....	43 31
Sundry supplies.....	12 45
Fertilizers	33 36
Traveling expenses.....	11 15
Inspecting fertilizers.....	442 32
Building and repairs.....	79 55
Dairy barn.....	862 36
Station building.....	6,550 60
	<hr/>
	\$14,434 29

Deficit January 1, 1904.....	\$4,058 37
	<hr/>
	<hr/>

Ledgerized statement of the receipts and expenditures of the fertilizer account from January 1, 1904, to June 30, 1904.

Receipts January 1, 1904, to June 30, 1904.....	\$9,606 50
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Deficit January 1, 1904.....	\$4,058 37
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Expenditures January 1, 1904, to July 1, 1904:

Salaries	3,554 17
Labor	1,570 86
Publications	308 55
Printing tags, etc.....	535 60
Stationery	30 35
Express	8 00
Chemical supplies.....	2 50
Sundry supplies.....	2 20
Fertilizers	23 33
Tools, implements, etc.....	23 00
Furniture	9 02
Inspecting fertilizers.....	267 32
Dairy barn.....	274 00
Residence—at farm.....	7 49
Station building.....	6,100 00
	<hr/>
	\$16,774 76

Deficit July 1, 1904.....	\$7,168 26
	<hr/>
	<hr/>

STATE COLLEGE OF KENTUCKY.

Ledgerized statement of the receipts and expenditures of the fertilizer account from July 1, 1904, to December 31, 1904.

Receipts July 1, 1904, to January 1, 1905.....		\$7,929 30
Deficit July 1, 1904.....	\$7,168 26	
Expenditures July 1, 1904, to January 1, 1905:		
Salaries	2,062 50	
Labor	1,892 14	
Printing tags, etc.....	409 67	
Stationery	9 00	
Express	16 45	
Sundry supplies.....	14 49	
Fertilizers	26 46	
Inspecting fertilizers.....	595 76	
Traveling expenses.....	21 30	
Station building.....	11,832 04	
		<u>\$24,048 07</u>
Deficit January 1, 1905.....		<u>\$16,118 77</u>

Ledgerized statement of the receipts and expenditures of the fertilizer account from January 1, 1905, to June 30, 1905.

Receipts January 1, 1905, to July 1, 1905.....		\$10,111 00
Deficit January 1, 1905.....	\$16,118 77	
Expenditures January 1, 1905, to July 1, 1905:		
Salaries	2,887 50	
Labor	1,274 36	
Printing tags, etc.....	679 12	
Publications	663 60	
Stationery	47 70	
Express	3 85	
Chemical supplies.....	54 76	
Sundry supplies.....	18 59	
Inspecting fertilizers.....	161 29	
Station building.....	1,801 94	
		<u>\$23,711 48</u>
Deficit July 1, 1905.....		<u>\$13,600 48</u>

Farm Account.

Ledgerized statement of the receipts and expenditures of the farm account from July 1, 1903, to January 1, 1904.

Balance on hand July 1, 1903.....		\$2,745 94
Receipts July 1, 1903, to January 1, 1904:		
Milk, butter, etc.....		1,266 12
Live stock.....		680 40
Rent		120 00
Farm produce.....		212 66
Bull service fees.....		60 00
Miscellaneous		8 25
		<hr/>
		\$5,093 37
Expenditures July 1, 1903, to January 1, 1904:		
Labor	\$143 17	
Publications	39 40	
Freight and express.....	2 91	
Seed, plants and sundry supplies.....	399 03	
Feed	875 86	
Tools, implements, etc.....	160 25	
Furniture	70 15	
Live stock.....	197 94	
Traveling expenses.....	65 26	
Contingent	96 53	
Building and repairs.....	162 29	
Station building.....	1,400 00	
	<hr/>	3,712 79
Balance on hand January 1, 1904.....		<hr/> <hr/> \$1,380 58

Ledgerized statement of the receipts and expenditures of the farm account from January 1, 1904, to July 1, 1904.

Balance on hand January 1, 1904.....		\$1,380 58
Receipts January 1, 1904, to July 1, 1904:		
Milk, butter, etc.....		1,710 89
Live stock.....		334 90
Rent		119 95
Farm produce.....		852 60
Bull service fee.....		5 00
Premiums at fair.....		161 15
		<hr/>
		\$4,565 07
Expenditures January 1, 1904, to July 1, 1904:		
Labor	\$ 110 18	
Freight	20 62	
Seeds, plants and sundry supplies.....	176 87	
Feed	1,487 65	
Tools, implements and machinery.....	95 80	
Contingent	68 50	
Building and repairs.....	67 00	
Residence—Scovell	3,405 92	
	<hr/>	\$5,432 54
Deficit July 1, 1904.....		<hr/> <hr/> \$867 47

Ledgerized statement of the receipts and expenditures of the farm account from July 1, 1904, to January 1, 1905.

Receipts July 1, 1904, to January 1, 1905:

Milk, butter, etc.....	\$1,482 15
Live stock.....	402 35
Rent	115 00
Farm produce.....	2 05
Bull service fees.....	10 00
	<hr/>
	\$2,011 55

Deficit July 1, 1904..... \$867 47

Expenditures July 1, 1904, to January 1, 1905:

Labor	94 85
Stationery	4 75
Seeds, plants and sundry supplies.....	290 64
Feed	512 25
Tools, implements, etc.....	35 00
Live stock.....	75 00
Traveling expenses.....	1 10
Contingent	18 00
Building and repairs.....	43 07
	<hr/>
	1,942 13

Balance on hand January 1, 1905..... \$69 42

Ledgerized statement of the receipts and expenditures of the farm account from January 1, 1905, to July 1, 1905.

Balance on hand January 1, 1905..... \$ 69 42

Receipts January 1, 1905, to July 1, 1905:

Milk, butter, etc.....	2,085 57
Live stock.....	88 64
Rent	125 00
Farm produce.....	961 79
Bull service fees.....	10 00
	<hr/>
	\$3,340 42

Expenditures January 1, 1905, to July 1, 1905:

Labor	\$1,014 29
Freight and express.....	12 25
Seeds, plants and sundry supplies.....	168 87
Feed	746 48
Tools, implements, etc.....	28 06
Traveling expenses.....	63 94
Contingent	99 65
Building and repairs.....	291 11
	<hr/>
	2,424 65

Balance on hand July 1, 1905..... \$915 77

Food Account.

Ledgerized statement of the receipts and expenditures of the food account from July 1, 1903, to January 1, 1904.

Balance on hand July 1, 1903..... \$ 698 24

Receipts July 1, 1903, to January 1, 1904:

Analyses—599 samples.....	2,995 00
Clerk and inspectors' salaries.....	1,250 00
Expense collecting samples.....	755 52
Expense attending court.....	124 65
Attorney's salary.....	750 00
Traveling expenses.....	65 20
Stationery	55 35
Labor—office	30 49
Miscellaneous	34 00
	\$6,758 45

Expenditures July 1, 1903, to January 1, 1904:

Salaries	\$1,791 66
Labor	251 73
Postage and stationery.....	44 30
Freight and express.....	13 55
Chemical apparatus and supplies.....	124 53
Sundry supplies.....	61 74
Furniture	33 50
Traveling expenses.....	674 98
Contingent	1 60
	2,997 59
Balance on hand January 1, 1904.....	\$3,760 86

Ledgerized statement of the receipts and expenditures of the food account from January 1, 1904, to July 1, 1904.

Balance on hand January 1, 1904..... \$3,760 86

Receipts January 1, 1904, to July 1, 1904:

Analyses—296 samples.....	1,480 00
Clerk and inspectors' salaries.....	750 00
Expenses collecting samples.....	176 03
Expenses attending court.....	239 56
Attorney's salary.....	500 00
Stationery	84 90
Labor—office	207 24
Furniture	12 00
	\$7,210 59

STATE COLLEGE OF KENTUCKY.

Expenditures January 1, 1904, to July 1, 1904:

Salaries	\$2,308 34	
Labor	360 50	
Postage and stationery.....	84 35	
Freight and express.....	1 45	
Chemical apparatus and supplies.....	106 81	
Sundry supplies.....	15 25	
Furniture	12 00	
Traveling expenses.....	472 19	
Contingent	24 40	
		<hr/>
		\$3,385 29

Balance on hand July 1, 1904.....	<hr/>	\$3,825 30
		<hr/>

Ledgerized statement of the receipts and expenditures of the food account from July 1, 1904, to January 1, 1905.

Balance on hand July 1, 1904.....	\$3,825 30
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Receipts July 1, 1904, to January 1, 1905:

Analyses—336 samples.....	2,430 00
Clerk and inspector's salary.....	875 00
Expenses collecting samples.....	762 02
Expense attending court.....	174 10
Attorney's salary.....	500 00
Stationery	25 10
Labor—office	119 35
Traveling expenses.....	47 68
Miscellaneous	10 50
	<hr/>
	\$8,769 05

Expenditures July 1, 1904, to January 1, 1905:

Salaries	\$1,791 66	
Labor	425 60	
Postage and stationery.....	67 90	
Heat, light, etc.....	500 00	
Sundry supplies.....	20 62	
Traveling expenses.....	622 30	
Contingent	4 75	
	<hr/>	
		3,432 83

Balance on hand January 1, 1905.....	<hr/>	\$5,336 22
		<hr/>

Ledgerized statement of the receipts and expenditures of the food account from January 1, 1905, to July 1, 1905.

Balance on hand January 1, 1905.....	\$5,336 22
Receipts January 1, 1905, to July 1, 1905:	
Analyses—400 samples.....	3,000 00
Clerk and inspector's salary.....	875 00
Expense collecting samples.....	458 98
Expense attending court.....	79 82
Attorney's salary.....	750 00
Publication	132 30
Stationery	70 20
Labor—office	139 40
Miscellaneous	11 25
	<hr/>
	\$10,853 17

Expenditures January 1, 1905, to July 1, 1905:

Salaries	\$2,558 34
Labor	469 40
Publications	132 30
Stationery	37 95
Freight and express.....	7 70
Chemical apparatus and supplies.....	241 39
Sundry supplies	44 29
Furniture	1,265 42
Scientific apparatus.....	307 10
Traveling expenses.....	210 76
Building and repairs.....	2,099 93
	<hr/>
	7,374 58

Balance on hand July 1, 1905.....	\$3,478 59
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Interest Account.

Ledgerized statement of the receipts and expenditures of the interest account from July 1, 1903, to July 1, 1905.

Balance on hand July 1, 1903.....	\$ 255 41
Receipts July 1, 1903, to July 1, 1905:	
Interest on deposits.....	99 82
Bank notes.....	10,000 00
	<hr/>
	\$10,355 23

Expenditures July 1, 1903, to July 1, 1905:

Insurance	\$301 67
Expert accountant.....	125 00
	<hr/>
	426 67

Balance on hand July 1, 1905.....	\$9,928 56
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MILITARY DEPARTMENT A. & M. COLLEGE.

LEXINGTON, Ky., November 30, 1905.

To the President A. and M. College:

Sir: I have the honor to render the following report of the Military Department of this College for the period ending June 30, 1905.

Captain George L. Byroade, U. S. Army, retired, was the officer detailed at this College by the War Department during the period 1902 to 1904; under his supervision the battalion of cadets was organized and the officers appointed in the fall of 1903. The Military Department was inspected in May, 1904, by Captain John W. Barker, Third U. S. Infantry, detailed from the army for the purpose.

In the latter part of May, the battalion under Captain Byroade went to the Louisiana Purchase Exposition for a period of two weeks at slight cost to each cadet. It was, on the whole, beneficial, as most of those who thus visited the Exposition would probably not otherwise have seen it.

Captain Byroade was relieved from duty at this institution the latter part of July, 1904, and the undersigned detailed by the War Department August 4, 1904.

I arrived in Lexington August 21, 1904, and, upon the opening of the College, entered upon my duties. The battalion was organized and the officers appointed after some delay, owing to the fact that I was a stranger and was not acquainted with their capabilities.

The discipline of the institution has been very good, but one case of insubordination having occurred, the cadet being suspended. The general control of the younger cadets has been an easy task, and I look for no trouble in the future.

The battalion was inspected by Captain R. B. Parrott, Twenty-seventh U. S. Infantry, detailed from the army for that duty, on May 17, 1905.

It is desired to make the military feature of this College a training school for the officers of the organized militia and as an adjunct to the National Guard of the State. To that end closer relations should be cultivated with the headquarters of the National Guard and more and greater recognition accorded the graduates of this institution, who have held commissioned offices in the cadet battalion.

The first step has already been taken, a list having been furnished the Adjutant General of the State, at his request, containing the names of all recent graduates of the College now residing in the State who, while cadets, were officers in the battalion.

The course as now laid out for the officers will cover in recitation and lecture work the following books: Infantry Drill Regulations, Manual of Guard Duty, Army Regulations, Firing Regulations for Small Arms, Field Service Regulations, U. S. Army, and a typical campaign.

It is earnestly recommended that if possible recognition for the graduated cadets be obtained by conferring upon them the honorary rank of captain by brevet in the National Guard of the State.

Very respectfully,

W. B. BURTT,

First Lieut. Fifth U. S. Infantry.

Professor of Military Science and Tactics, Commandant.

LEXINGTON, KY., November 26, 1905.

President James K. Patterson, State College of Kentucky:

Dear Sir: I have the honor to submit to you the following report of the Department of Physical Training for the past two years. On account of the broad scope of physical education, this brief report can be no more than a summary, but it is hoped that what is said will be more or less indicative of the daily work of the department.

At the beginning of the collegiate year, each new student is subjected to an examination by the Medical Adviser in order to ascertain whether or not he is physically able to enter the work. If eligible, he is then subjected to another physical examination by the physical director. This examination includes strength tests, measurements, family history, etc., as indicated on the card inclosed. After this examination, he is assigned to a regular class for physical training and special exercise is prescribed, in case it is needed. Records are kept for attendance and proficiency, a certain standard being required.

The work is conducted along scientific lines with a view to the drawing out of latent physical powers and the development of all. The physiological and psychological effect of the various exercises being known, the principle of "gymnastic selection" has been applied throughout.

It has been the policy of the department in all competitive sports to place the rational education of the body above victory, to discourage the "to win" idea and to encourage the "sport for sport's sake" idea in athletics and games. We believe and teach that the aim of the department is mainly three fold: First, physical, developing strength, grace, activity, an erect carriage and manly bearing, steadiness of motion, accuracy of motion, and the correction of anatomical deformities; second, physiological, strengthening and normalizing the various organs and promoting harmony in the exercise of their various functions, which condition is health; third psychological, affording opportunity for recreation and developing attention, judgment, discrimination, etc. Aside from these, the ethical, moral and social benefits are not forgotten nor overlooked. Toward such ends we have labored and such results are we accomplishing. Hence, we endeavor to make victory or defeat in competitive work secondary and incidental rather than an end in itself.

By prescription of special exercise, we have paid special attention to the correction of such physical deformities as flat or narrow chest, round or stooping shoulders, curvature of the spine, protruding hips, poking chin, and obesity, and in curing, relieving or preventing such functional disorders as constipation, stomach troubles, nervous affections, heart troubles and consumption. Along these lines, physical training is mainly preventive. Much of the good effect of the work can not be seen. Who can tell how many diseases have been presented and how much time and money has been saved to the students? By means of the department, students have been enabled to successfully acquire a college education who otherwise would never have been able to do so on account of tendencies to certain diseases. But it has done more, for many of such students have been sent out as

graduates with even a better physical basis for life's work than when they entered.

We feel that for our farmer boys (of whom a large per cent. of our student body is composed), who have always been accustomed to an active out-door life, it were fatal to their future usefulness in life to change their environment so entirely and suddenly by cooping them up within the walls of the class rooms for months without offering them opportunities for physical exercise, and even making it compulsory upon them to take it. We also feel that it is just as important for the city-raised boy. While one unaccustomed to physical activity could probably stand the strain of acquiring an education better than the first class, yet they would go from college with a stooping figure, pale faces, cold extremities, weak hearts, disordered stomachs and wrecked nervous systems, when they should be in the prime of a vigorous physical manhood. We have put blood into their cheeks, fresh air into their lungs, and have given tone to their nerves. Such work has been given as would benefit all, but special attention has been paid to those most imperfect physically.

Class attendance has been above the average in institutions of this kind, and the large number of daily voluntary workers has been gratifying.

The work this year has opened even more auspiciously than heretofore and we expect to make this department more and more a factor for good each year, as we have done in the past.

Assuring you of our best service and thanking you for your earnest coöperation, I have the honor to remain

Your obedient servant,

W. W. H. MUSTAINE,

Physical Director.

LEXINGTON, KY., July 11, 1905.

To Hon. D. F. Frazee, Chairman of the Board of Trustees of A. and M. College of Kentucky, Lexington, Ky.:

Dear Sir: I hand you herewith my biennial report of the A. & M. College of Kentucky, containing the receipts and expenditures by the month from July 1, 1903, to June 30, 1904, and from July 1, 1904, to June 30, 1905; also the receipts and expenditures of the building fund of Patterson Hall from November 23, 1903, to June 30, 1905, and the receipts and expenditures of the annual appropriation for Patterson Hall from December 22, 1904, to June 30, 1905.

Very respectfully,

D. C. FRAZEE,

Business Manager.



SWITCH BOARD (ELECTRICAL ENGINEERING).

Biennial Report of the Agricultural and Mechanical College of Kentucky.

From July 1, 1903, to June 30, 1904, and from July 1, 1904, to June 30, 1905.

RECEIPTS AND DISBURSEMENTS FROM JULY 1, 1903, TO JUNE 30, 1904.

RECEIPTS.

1903.		
July	From bills payable Fayette National bank*.....	\$16,000 00
July	From Auditor of State of Kentucky.....	402 79
July	From fees, etc.	52 20
Aug.	From Auditor of State of Kentucky.....	4,322 25
Aug.	From fees, etc.	6 50
Sept.	From fees, etc.	3,604 32
Oct.	From Auditor of State of Kentucky.....	5,524 91
Oct.	From fees, etc.	4 00
Nov.	From fees, etc.	93 15
Dec.	From U. S. appropriation.....	21,375 00
Dec.	From fees, etc.	26 00
1904.		
Jan.	From Auditor of State of Kentucky.....	29,322 25
Jan.	From fees, etc.	278 00
Feb.	From fees, etc.	100 00
March	From Auditor of State of Kentucky.....	5,742 49
March	From fees, etc.	22 50
April	From Auditor of State of Kentucky.....	95 94
April	From fees, etc.	214 35
May	From fees, etc.	166 19
June	From fees, etc.	278 19
June	From bills payable Fayette National Bank*.....	20,000 00
		<hr/>
		\$107,631 03

DISBURSEMENTS.

1903.		
	Overdrawn July 1, 1903.....	\$13,464 19
July	As per vouchers.....	1,951 65
Aug.	As per vouchers.....	1,732 45
Sept.	As per vouchers.....	1,789 09
Oct.	As per vouchers.....	5,507 95
Nov.	As per vouchers.....	9,638 65
Dec.	As per vouchers.....	25,372 49
1904.		
Jan.	As per vouchers.....	7,965 33
Feb.	As per vouchers.....	6,841 60
March	As per vouchers.....	6,519 96
April	As per vouchers.....	6,523 82
May	As per vouchers.....	2,214 66
June	As per vouchers.....	19,961 34
		<hr/>
		\$109,123 18
Overdrawn July 1, 1904.....		<hr/>
		\$1,492 15

Vouchers in business agent's office subject to inspection and verification.

D. C. FRAZEE,

Business Agent.

*Money borrowed from bank to meet obligations. These items are not in any proper sense income.

RECEIPTS AND DISBURSEMENTS FROM JULY 1, 1904, TO JULY 1, 1905.

RECEIPTS.

1904.		
July	From Auditor of State of Kentucky.....	\$ 5,437 83
July	From fees, etc.	379 46
Aug.	From U. S. appropriation.....	21,375 00
Aug.	From fees, etc.	53 10
Sept.	From Auditor of State of Kentucky.....	3,161 69
Sept.	From fees, etc.	4,994 00
Oct.	From fees, etc.	424 50
Nov.	From fees, etc.	59 25
Dec.	From Auditor of State of Kentucky.....	12,239 42
Dec.	From fees, etc.	23 40
1905.		
Jan.	From fees, etc.	673 75
Feb.	From Auditor of State of Kentucky.....	19,995 22
Feb.	From fees, etc.	208 15
March	From fees, etc.	169 81
April	From fees, etc.	45 59
May	From Auditor of State of Kentucky.....	1,114 63
May	From fees, etc.	68 07
June	From Auditor of State of Kentucky.....	4,322 25
June	From fees, etc.	128 24
Total		<u>\$74,873 36</u>

DISBURSEMENTS.

1904.		
	Overdrawn July 1, 1904.....	\$ 1,492 15
July	As per vouchers.....	1,946 50
Aug.	As per vouchers.....	1,729 20
Sept.	As per vouchers.....	968 11
Oct.	As per vouchers.....	7,939 98
Nov.	As per vouchers.....	7,077 08
Dec.	As per vouchers.....	12,166 99
1905.		
Jan.	As per vouchers.....	2,731 37
Feb.	As per vouchers.....	7,737 52
March	As per vouchers.....	6,914 32
April	As per vouchers.....	6,363 01
May	As per vouchers.....	6,168 12
June	As per vouchers.....	12,784 27
		<u>\$76,018 62</u>
Overdrawn July 1, 1905.....		<u>\$1,145 26</u>

D. C. FRAZEE,

Business Agent.

Vouchers in business agent's office subject to inspection and verification.

Business agent's report of the receipts and expenditures of the building fund of Patterson Hall from November 23, 1903, to June 30, 1905.

RECEIPTS.

1904.		
April 18	Received from Auditor of State.....	\$20,000 00
Aug. 12	Received from sale of stable.....	30 00

DISBURSEMENTS.

1903.		
Nov. 23	Overdrawn	\$ 154 31
Dec. 3	Will Porter, work on grounds.....	2 20
7	Clarke & Howard, 10th estimate.....	2,000 00
1904.		
Jan. 11	Henry Jones, work on grounds.....	3 00
14	Henry Jones, work on grounds.....	1 00
23	Henry Jones, work on grounds.....	5 00
Feb. 20	Clarke & Howard, 9th estimate.....	3,000 00
26	Geo. Vinegar, work on grounds.....	2 00
26	John Adley, work on grounds.....	1 00
28	John Jardin, work on grounds.....	1 50
April 2	Frazer, for Nelson, expenses.....	8 75
2	John Adley, work on grounds.....	1 00
5	Geo. Vinegar, work on grounds.....	50
9	Chas. Kirtley, work on grounds.....	6 00
16	Will Porter.....	4 50
20	R. S. Bullock, interest.....	104 16
20	C. F. Brower & Co., furniture.....	1,861 36
20	Anderson & Dudley, table ware.....	94 25
20	Brown, Caden & Winn, linen.....	34 90
20	Lexington Democrat, advertising.....	5 00
20	C. S. Brent, seeds.....	6 85
20	J. J. Fitzgerald, plumbing.....	84 00
20	Mrs. F. A. Atkins, expenses.....	2 00
20	J. D. Purcell, table linen.....	10 50
20	Williamson & Sons, lumber.....	15 00
20	James A. Todd, linen.....	11 50
22	H. L. Rowe, architect.....	482 00
22	Clarke & Howard, on estimate.....	5,000 00
23	Will Porter, work on grounds.....	4 00
23	Frank Douglas, grading.....	42 52
23	Geo. Jacobs, grading	52 27
26	Lexington Hydraulic & Mfg. Co.....	75 00
26	J. G. Lewis, surveying.....	3 62
May 2	Brock & Co., range.....	161 23
2	A. K. Lyon, table ware.....	76 00
2	J. B. Schroder, door numbers.....	12 15
2	Warner Elevator Co., elevator.....	280 00
10	Clarke & Howard, on contract.....	2,000 00
10	R. W. Nelson, expenses.....	7 00
10	H. S. Barker, expenses.....	8 20
18	Will Porter, working on grounds.....	3 50
June 7	Ed Jarrell, tin work.....	15 50
July 6	H. S. Barker, expenses.....	4 80
6	J. D. Purcell, matting, etc.....	75 20
6	C. F. Brower & Co., furniture.....	385 21
6	Lexington Gate and Fence Co.....	10 50
23	Geo. S. Weeks, insurance.....	18 75

Aug.	6	R. W. Nelson, expenses.....	\$ 7 75	
	6	H. S. Barker, expenses.....	5 80	
	6	W. C. Bell, expenses.....	7 35	
	19	James Murray, work on road.....	5 50	
Sept.	16	Will Porter, work on road.....	3 30	
	24	Douglas & O'Neil, making roads.....	50 00	
		Will Porter, work on road.....	3 50	
Oct.	1	Will Porter, work on grounds.....	4 60	
	4	J. W. Stoll, insurance.....	15 00	
	8	Will Porter, work on grounds.....	5 00	
	15	Will Porter, work on grounds.....	3 00	
	15	Douglas & O'Neil making roads.....	100 00	
	24	Will Porter, work on roads.....	3 20	
	29	Will Porter, work on roads.....	3 00	
Nov.	4	Will Porter, work on roads.....	4 50	
	14	Will Porter, work on roads.....	2 00	
	18	Douglas & O'Neil, making roads	250 00	
Dec.	3	Will Porter, work on roads.....	2 20	
1905.				
Jan.	23	Douglas & O'Neil, making roads.....	46 25	
	23	Farley Transfer Co., freight dray.....	8 38	
Feb.	3	Thos. Ahern, sewer.....	28 00	
	10	Louis des Cognets & Co., cement.....	49 35	
March	6	E. T. Burrows & Co., screens.....	255 92	
April	26	R. W. Nelson, expenses.....	8 00	
May	12	C. F. Brower & Co., furniture.....	241 48	
	12	J. S. Peer & Co., paint.....	2 00	
		Balance	2,778 51	
			<u>\$20,030 00</u>	<u>\$20,030 00</u>

Balance on hand July 1, 1905..... \$2,778 51

D. C. FRAZEE,
Business Agent.

Business agent's report of the annual appropriation of \$2,000 for Patterson Hall.

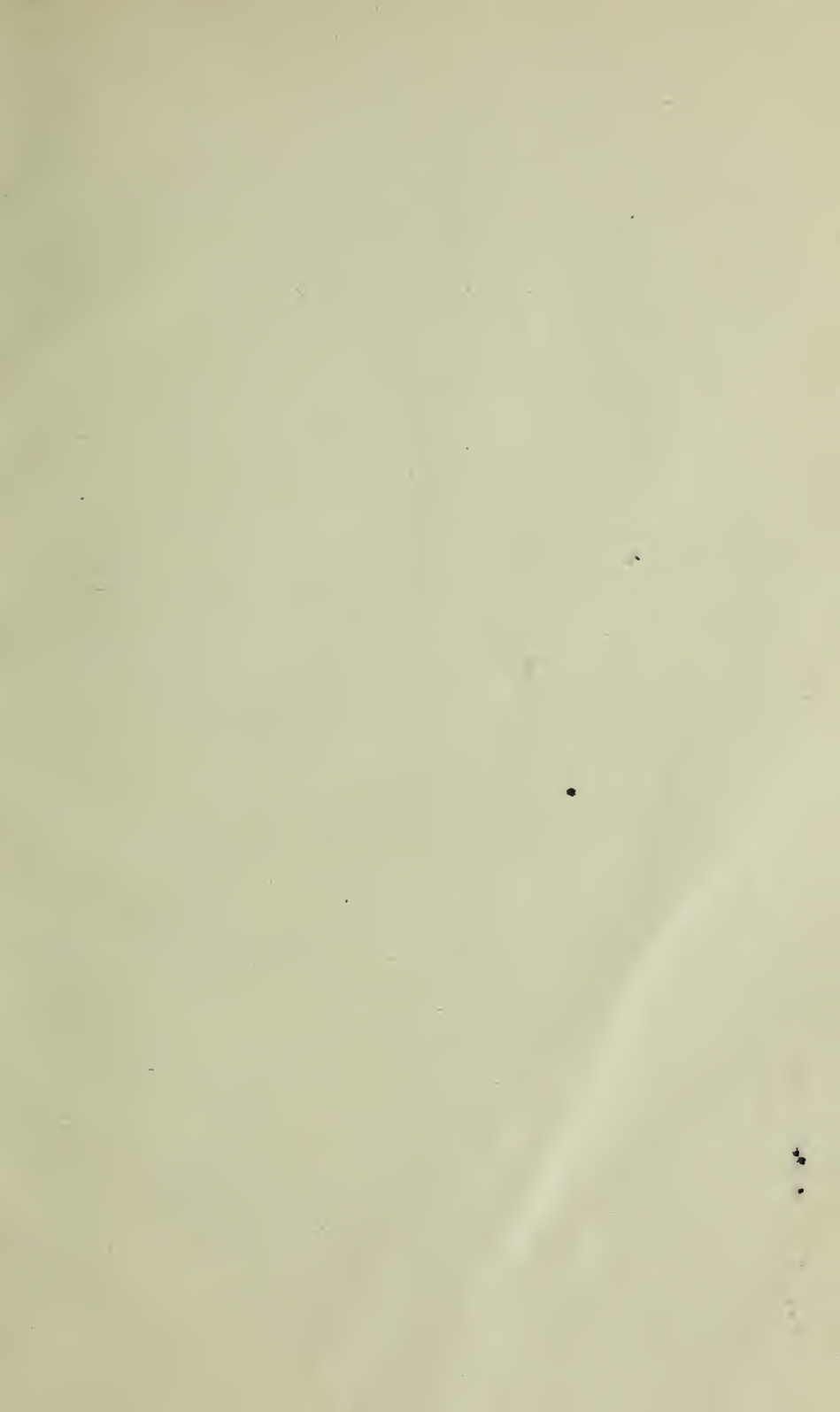
RECEIPTS.

1904.			
Dec.	22	From Auditor.....	\$2,000 00

EXPENDITURES.

1905.				
Jan.	6	Lexington Railway Co., lights	\$390 40	
	6	Kinhead Coal Co.....	307 41	
	6	Building Fund Girls' Dormitory, janitor.....	237 75	
	13	Lexington Hydraulic & Mfg. Co., water.....	87 81	
Feb.	2	Louis des Cognets Co., coal.....	174 76	
	2	Lexington Railway Co., lights.....	43 10	
	2	Lexington Hydraulic & Mfg. Co., water.....	10 79	
	2	J. J. Fitzgerald, grate bars.....	26 00	
	2	Combs Lumber Co.....	6 50	
	2	T. B. Hay & Co.....	19 85	
	2	Thos. Ahern	2 50	
	10	Louis des Cognets & Co., coal.....	87 06	
	14	Mrs. Carrie Wallis, part of salary.....	195 00	
	14	C. S. Brent.....	4 50	
March	2	Louis des Cognets & Co.....	71 65	
	2	Lexington Railway Co., light.....	29 10	
	7	Lexington Hydraulic & Mfg. Co., water.....	12 77	
	15	Building Fund Patterson Hall, insurance....	18 75	
	17	J. O. H. Simrall, insurance.....	5 91	
	18	Will Porter.....	4 80	
	20	M. L. Pence.....	4 00	
	22	Geo. Geddes.....	8 00	
	22	McClure & Bronston.....	6 50	
	22	C. D. Cunningham.....	11 10	
	22	Van Deren Hardware Co.....	8 80	
	3	Will Porter.....	4 40	
April	6	Lexington Railway Co., lights.....	68 60	
	6	Lexington Hydraulic & Mfg. Co., water....	12 34	
	8	Will Porter.....	1 75	
	15	Will Porter.....	2 40	
	22	Will Porter.....	3 00	
	22	Pier Whiteman.....	2 50	
May	3	Thos. Meehan & Son.....	27 05	
	3	Lexington Railway Co.....	37 50	
	3	Lexington Hydraulic & Mfg. Co., water.....	14 47	
	3	Louis des Cognets & Co., coal.....	14 79	
	6	Will Porter.....	2 20	
	20	Will Porter.....	4 75	
	27	Will Porter.....	3 60	
June	12	Will Porter.....	2 20	
	27	H. W. Johns-Manville Co.....	227 95	
1905.				
July	1	Balance		204 31
			<hr/>	
			\$2,204 31	\$2,204 31
			<hr/>	
			<hr/>	
1905.				
July	1	Balance overdrawn.....		\$204 31

D. C. FRAZEE,
Business Agent.







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